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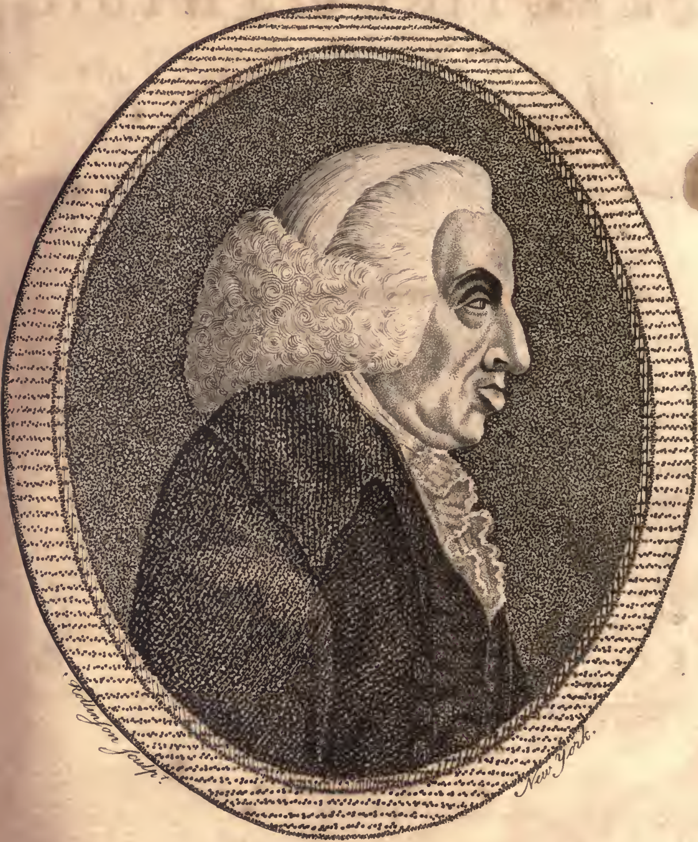
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WILLIAM CULLEN M.D.
Late Professor of the Practice of Physic
in the University of Edinburgh. &c.
OBIT 5th Febry 1790. ÆTAT. 77 Yrs

FIRST LINES
OF THE
PRACTICE OF PHYSIC.

BY

WILLIAM CULLEN, M. D.

LATE PROFESSOR OF THE PRACTICE OF PHYSIC IN THE UNIVERSITY OF EDINBURGH, &c. &c.

IN TWO VOLUMES.

WITH PRACTICAL AND EXPLANATORY NOTES,

BY

JOHN ROTHERAM, M. D.

TO WHICH IS PREFIXED

THE LIFE OF THE AUTHOR.

VOL. I.

* * *

NEW-YORK:
PRINTED BY SAMUEL CAMPBELL, BOOK-SELLER AND STATIONER,
No. 37, HANOVER-SQUARE.
M,DCC,XCIII

ADVERTISEMENT.

The character of Dr. Cullen's Firſt Lines of the Practice of Phyſic is ſufficiently eſtabliſhed, and its intrinſic value has been long acknowledged by practitioners of every denomination.

The original intention of this Work was to ſerve as a Text-Book or Baſis for the ingenious and experienced Author's Lectures in the practical chair of the Univerſity of Edinburgh. But, as the Author is now deceaſed, and the Book is ſought after with avidity by Students, who can no longer have an opportunity of hearing the Doctor's Explanatory Obſervations, Notes explaining abſtruſe points, and accommodating young Practitioners with the Formulæ and Doſes of Medicine, which are mentioned in the Text only in general terms, have been added to this Edition.

A STRICT attention has been paid to print the Author's Text verbatim from the laſt Edition publiſhed before his death.

N. B. The American Publiſher has, in this Edition, carefully diſtributed the Notes throughout the Work, under their different references: whereas, in the Britiſh Editions, they were wholly printed at the end of the Laſt Volume, which tended very much to embarraſs and perplex the Reader.

A
SKETCH
OF THE
LIFE
OF THE LATE
WILLIAM CULLEN, M. D.

DE *mortuis nihil niſi bonum*, is an adage generally followed; and exemplifies, in a very ſtriking manner, the innate benevolence of the human heart, when not warped by paſſion or intereſt. Among the dead no rival is to be feared; nor can poſthumous celebrity oppoſe the profeſſional advancement of the living. Mankind frequently yield to a faſcinating deluſion in drawing the characters of diſtinguiſhed literary men; and, through the defect of not giving to ſuch their true proportion of light and ſhade, render the whole an indiſcriminate glare of fulſome adulation. By paying a juſt tribute of reſpect to the memory of the illuſtrious dead, we hold up their conduct to the imitation of the living, and excite a generous wiſh to emulate their virtues. The ſubſequent Biographical Sketch ſhould have uncommon influence; it proves, that even in the moſt confined and humble ſituation, men of ability and application may arrive to the higheſt profeſſional rank in phyſic.

William Cullen was born in 1713, at Lanark. His father had been magiſtrate of Hamilton, but his circumſtances were narrow. It has been remarked that in Scotland few young men receive a finiſhed claſſical education; the time and expence neceſſary to complete ſuch a courſe, the Scotch either cannot, or generally do not afford. Cullen had only ſuch as was deemed ſufficiently preparatory to be bound apprentice to a ſurgeon and apothecary in Glaſgow; with him he remained four years. When his term of apprenticeſhip had been completed, he engaged as ſurgeon to a trading veſſel to the Weſt-Indies; and, in this capacity, made ſome voyages. There are few ſituations he could have choſen more oppoſite to the general direction of his genius; we therefore cannot be ſurpriſed he ſoon grew weary of it, and looked to a more eligible eſtabliſhment. That his views in this reſpect were very humble, the ſituation he choſe is a proof; for he ſettled as a ſurgeon in the pariſh of Shotts, practiſing among the farmers and country people. But, as the practice of ſurgery neither accorded with his feelings or genius, he ſoon became diſguſted with it, and we find him in the year 1737 ſettled at Hamilton, as phyſician, ſurgeon and apothecary. Soon after this period, he received into his houſe as an eleve the late doctor William Hunter, who remained with him three years, when it was mutually agreed on, that Hunter ſhould go to London for ſome time to improve himſelf in the practice of ſurgery, and that on his return to Hamilton a partnerſhip ſhould commence; Cullen was to attend the medical buſineſs and Hunter the ſurgical. From ſome fortunate contingencies in Hunter's favour, this project ended with their ſeparation, and Cullen remained until the year 1743 at Hamilton, when he was accidentally employed by the Duke of Argyle, whom he ſucceſsfully treated for a complaint in his eyes. It generally ſo happens that we date the epoch of a medical man's riſing into public notice from ſome contingent circumſtance either of a cure performed on, or an acquaintance commenced with, ſome great man; that ſuch circumſtances ſerve to introduce phyſicians even of mediocrity of abilities into general practice which they would never otherwiſe attain, is I believe true; but men of real genius ſtand on very different ground: a brilliant connexion may undoubtedly accelerate their profeſſional progreſs, but real medical ability is a vigorous ſhoot, and needs not the prop of lordly ſupport.

When Cullen left Hamilton, and ſettled in Glaſgow, he ſeems to have been conſcious of ability in phyſic, ſuperior to his opportunities of acquirement, for he immediately offered himſelf to the univerſity as profeſſor of the inſtitutes, and without being formally nominated, he was allowed to lecture. He ſoon after was appointed both to the chair of practice and chemiſtry, and received his diploma of doctor in the year 1746. Curioſity may be anxious to enquire by what means he could qualify himſelf for ſuch important ſituations, particularly when it is known that he at once diſplayed uncommon talents for arrangement, great medical erudition, and peculiar accuracy in his method of teaching; in ſo much that he eclipſed all the other profeſſors, and became the ſtandard of medical oratory.

We have remarked how much confined his preparatory education was, and we may eaſily judge how little leiſure his ſubſequent engagements either as an apprentice, ſurgeon to a trading veſſel, or country apothecary and ſurgeon, could have left him for literary improvement; and yet by that little, with the help of ſtrong intellectual powers particularly directed to the ſtudy of phyſic, joined to a retentive memory, and unwearied application, was he enabled to lay a ſolid foundation for the brilliant character he ſo juſtly acquired. His growing reputation as profeſſor in Glaſgow, ſoon attracted the notice of the directors of the univerſity of Edinburgh, and on the chair of chemiſtry becoming vacant by the death of Dr. Plumber, Dr. Cullen was immediately appointed to ſucceed him.

As profeſſor of chemiſtry it is ſaid his lectures were peculiarly attractive, in ſo much that they excited the envy of the other medical profeſſors. To be envied is ſuch a criterion of merit, as to become a poetical axiom elegantly expreſſed by one of our greateſt poets.

> " Envy will merit as its ſhade purſue,
> " But like a ſhadow proves the ſubſtance true."

Cullen deſpiſed thoſe impotent attempts which were directed to oppoſe his growing reputation, and viewed them in ſilent contempt; his ſuperior abilities, his methodical arrangement in lecturing, and his general liberal conduct as a phyſician, ſoon gave him a decided ſuperiority over all his medical cotemporaries.— To the ſtudents of phyſic he was particularly attentive; he was ever ready to give them his advice on all occaſions, if accidentally diſtreſſed he relieved their wants in the moſt gracious manner, and he was the firſt phyſician that refuſed fees from medical ſtudents, a circumſtance that does infinite credit both to his head and heart. I have heard a variety of traits of this kind, that exemplify in a ſtriking manner his diſintereſted benevolence, and how delicately and judiciouſly he directed his views either to relieve the wants, ſupply the neceſſities, or ſtimulate the induſtry of the ſtudent.

In 1763, on the death of Dr. Alſton he was appointed profeſſor of Materia Medica; and how well he ſucceeded in this department his treatiſe on the Materia Medica fully proves. He alſo gave clinical Lectures in the general hoſpital with ſingular advantage to the ſtudent; but the great epoch of his medical celebrity was reſerved to the year 1766, when on the death of Dr. Whytte he was appointed in conjunction with the late Doctor Gregory to give lectures on the theory and practice of phyſic; and on Dr. Gregory's death, which happened ſoon after this arrangement took place, he became ſole profeſſor, and in this ſituation he continued until within a few months of his death. When appointed to the practical chair, in order to give his entire attention to the duties of this new department, he reſigned the profeſſorſhip of Chemiſtry to his pupil the preſent celebrated Doctor Black.

Although few men poſſeſſed more general medical ability than Doctor Cullen; ſtill his genius ſeemed particularly directed to the inveſtigation of diſeaſe, we therefore need not be ſurpriſed that his enquiry was immediately pointed to a reviſion of the then prevailing ſyſtems of phyſic. He acknowledges that Boerhaave's ſyſtem was the only he had learned, and with its imperfections he became early acquainted, and on many occaſions was uſed to diſſent from it. This excited much medical contention among the ſtudents, and induced our profeſſor to offer the firſt lines of a new ſyſtem. But firſt he publiſhed in 1769 his Synopſis Noſologiæ Methodicæ; it was a general nomenclature of diſeaſes reduced to botanical arrangement, as claſſes, orders, genera and ſpecies. This was intended to facilitate the knowledge of diſeaſes by arranging them according to the leading circumſtances of their ſeveral affinities. The idea was ingenious, but the end propoſed was not attained, for by throwing too many objects at once before the ſtudent, he firſt became confuſed, unintereſted with ſuch general accounts and at laſt diſguſted. This method of claſſification was firſt introduced by Sauvages, and immediately adopted by Linneus and Vogel; Sauvages was undoubtedly a man of great genius, and uncommon medical erudition. So early as the year 1732, he publiſhed his Synoſpis Noſoligiæ Methodicæ. To the improvement of this plan he dedicated I may ſay the remainder of his life: In 1763 he publiſhed his Noſologia Methodica Siſtens Morborum Claſſes, Genera et Species Juxta Sydenhami mentem et Botanicorum ordinem, in five volumes octavo, at Amſterdam, and in Paris, in two volumes quarto: He died in 1767, after a long and painful ſickneſs, which he ſuffered with philoſophic fortitude: He was upwards of thirty years profeſſor of phyſic in the univerſity of Montpellier.

Sauvages acknowledges he was indebted to Sydenham for the idea of claſſing diſeaſes in botanical arrangement, and undoubtedly he has a decided ſuperiority in point of erudition over all thoſe who have written on the ſame ſubject, however he errs in redundancy; for, under ten claſſes, he comprehends 295 genera, including 2400 diſeaſes; Linneus and Vogel both circumſcribed this catalogue; and Cullen judiciouſly abridged it to nearly (I believe) the one half.

Cullen's Synopſis may be only conſidered as an index to his lectures. In 1777, he publiſhed his firſt lines of the practice of phyſic; this work he conſidered in ſome reſpect as original, although evidently founded on the ſyſtem of Hoffman: However, his chief view ſeems to be, to diſcard that of Boerhaave, which was the doctrine until then generally received. To ſay that in the arrangement of this important work he excels all his predeceſſors in the *Lucidus Ordo*, would be allowing (but in part) his merits. He undoubtedly has placed many of the phenomena attending diſeaſe in a new point of view, and thrown additional light on all. How far his totally rejecting the Humoral Pathology, and placing the cauſe of diſeaſe intirely in the various changes the moving powers may undergo, is a queſtion that will undoubtedly admit ſtill of much diſpute; however, his firſt lines may be conſidered (with every degree of propriety) among the beſt general ſyſtems of phyſic.

Cullen now gradually approached that period at which his literary labours were to end; and it muſt be acknowledged that he ſet with uncommon luſtre. At the age of 77, he publiſhed his treatiſe on the Materia Medica, a work of the firſt merit, and the reſult of more than half a century's experience. The limits of this biographical ſketch will not permit any detail of the many valuable articles to be found in this treatiſe. It may be ſufficient to remark, that he has judiciouſly weeded the Materia Medica of a farrago of frivolous articles, and with ſuperior diſcrimination has taught the uſe and abuſe of the moſt important medicines; his remarks on opium and the peruvian bark are invaluable.

Cullen had long ſince arrived at his literary achme, and began ſenſibly to feel the gradual effects of declining years. In 1789 he reſigned his profeſſorſhip, and in an affecting ſpeech bid adieu to an auditory fully impreſſed with his ſingular merits; the next day he was paid every academic honour; he ſurvived his reſignation but a few months. Doctor Cullen was in his Perſon tall and thin; his general appearance, on account of an habitual ſtoop, rather inelegant; however, his countenance was expreſſive, and his general deportment prepoſſeſſing. He had early in life married, and he left, I believe, three daughters, and two ſons: Henry, who ſucceeded his father as profeſſor, ſurvived him but a few months. Although Dr. Cullen

len's profeſſional emoluments for many years muſt have exceeded £.1000 ſterl. a-year; yet ſuch was his generous and hoſpitable diſpoſition, that he is ſaid to have left but a very ſlender proviſion for his family. However, it is to be hoped this want has been ſince ſupplied by his country; for it would be a national reflection, that while penſions are frequently diſtributed among the moſt unworthy, the family of ſo illuſtrious a benefactor to mankind ſhould reſt unnoticed.

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PREFACE.

TO deliver a ſyſtem of the doctrines and rules proper for directing the practice of phyſic, is an undertaking that appears to me to be attended with great difficulty; and, after an experience of more than forty years in that practice, as well as after much reading and reflection, it was with great diffidence that I ever entered upon ſuch a work. It was, however, what ſeemed to be my duty as a profeſſor that induced me to make the attempt; and I was engaged in it by the ſame ſentiments that the illuſtrious Dr. Boerhaave has expreſſed in the following paſſage of the preface to his inſtitutions; *Simul enim docendo admotus eram ſenſu, propriorum cogitatorum explicatione docentem plus proficere, quam ſi opus ab alio conſcriptum interpretari ſuſcipit. Sua quippe optime intelligit, ſua cuique præ cæteris placent, unde clarior fere doctrina, atque animata plerumque ſequitur oratio. Qui vero ſenſa alterius exponit, infelicius ſæpenumero eadem aſſequitur; quumque ſuo quiſque ſenſu abundat, multa refutanda frequenter invenit, unde gravem fruſtra laborem aggravat, minuſque incitata dictione utitur.* It is well known, that a text-book is not only extremely uſeful, but neceſſary to ſtudents who are to hear lectures: and from the ſame conſiderations that moved Dr. Boerhaave, I alſo wiſhed to have one for myſelf; while, at the ſame time, from ſome peculiar circumſtances in my ſituation, I had ſome additional inducements to undertake ſuch a work.

Before I was eſtabliſhed as a profeſſor of the practice of phyſic in this univerſity, I had been employed in giving clinical lectures in the royal infirmary; and upon that occaſion had delivered, what, in my own opinion, ſeemed moſt juſt with regard to both the nature and the cure of the diſeaſes of which I had occaſion to treat. But I ſoon found, that my doctrines were taken notice of, as new, and peculiar to myſelf; and were accordingly ſeverely criticiſed by thoſe who, having long before been trained up in the ſyſtem of Boerhaave, had continued to think that that ſyſtem neither required any change, nor admitted of any amendment. I found, at the ſame time, that my doctrines were frequently criticiſed by perſons who either had not been informed of them correctly, or who ſeemed not to underſtand them fully; and therefore, as ſoon as I was employed to teach a more complete ſyſtem of the practice of phyſic, I judged it neceſſary to publiſh a text-book not only for the benefit of my hearers, but that I might alſo have an opportunity of obtaining the opinion of the public more at large, and thereby be enabled either to vindicate my doctrines, or be taught to correct them. Theſe were the motives for my attempting the volumes I formerly publiſhed; and now, from many years experience of their utility to my hearers, as well as from the favourable reception they have met with from the public, I am induced to give a new edition of this work, not only, as I hope, more correct in many parts, but alſo more complete and comprehenſive in its general extent.

At the firſt publication of this work, it was intended chiefly for the uſe of thoſe gentlemen who attended my lectures; although, even then, for the reaſons I have mentioned, it was rendered more full than text-books commonly are; and, in the repeated editions I have ſince had occaſion to give, I have been conſtantly endeavouring to render it more full and comprehenſive. In theſe reſpects, I hope the preſent edition will appear to be rendered more fit for general uſe, and better calculated to afford ſatisfaction to all thoſe who think they may ſtill receive any inſtruction from reading on this ſubject.

While I thus deliver my Work in its now more improved ſtate, with the hopes that it may be of uſe to others as well as to thoſe who hear my Lectures, I muſt at the ſame time obſerve, that it preſents a ſyſtem which is in many reſpects new, and therefore I apprehend it to be not only proper, but neceſſary, that I ſhould explain here upon what grounds, and from what conſiderations, this has been attempted.

In the firſt place, I apprehend that, in every branch of ſcience with reſpect to which new facts are daily acquired, and theſe conſequently giving occaſion to new reflections, which correct the principles formerly adopted, it is neceſſary, from time to time, to reform and renew the whole ſyſtem, with all the additions and amendments which it has received and is then capable of. That at preſent this is requiſite with regard to the Science of Medicine, will, I believe, readily occur to every perſon who at all thinks for himſelf, and is acquainted with the Syſtems which have hitherto prevailed. While, therefore, I attempt this, I think it may be allowable, and upon this occaſion even proper, that I ſhould offer ſome remarks on the principal Syſtems of Medicine which have of late prevailed in Europe, and that I ſhould take notice of the preſent ſtate of Phyſic as it is influenced by theſe. Such remarks, I hope, may be of ſome uſe to thoſe who attempt to improve their knowledge by the reading of books.

Whether the Practice of Phyſic ſhould admit of reaſoning, or be entirely reſted upon experience, has long been, and may ſtill be, a matter of diſpute. I ſhall not, however, at preſent, enter upon the diſcuſſion of this; becauſe I can venture to aſſert, that, at almoſt all times, the practice has been, and ſtill is, with every perſon, founded, more or leſs, upon certain principles eſtabliſhed by reaſoning; and therefore, in attempting to offer ſome view of the preſent ſtate of Phyſic, I muſt give an account of thoſe ſyſtems of the principles of the ſcience which have lately prevailed, or may be ſuppoſed ſtill to prevail in Europe.

When, after many ages of darkneſs, which had deſtroyed almoſt the whole of ancient literature, learning was again reſtored in the fifteenth century; ſo, from cauſes * which are well known, it was the ſyſtem of Galen alone that the Phyſicians of thoſe days became acquainted with; and during the courſe of the ſixteenth century, the ſtudy of Phyſicians was almoſt ſolely employed in explaining and confirming that ſyſtem. Early indeed, in the ſixteenth century, the noted Paracelſus † had laid the foundation of a Chemical Syſtem which

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* *At this period the medical knowledge of Europe was chiefly, and indeed ſolely, ſuch as had been derived from the Arabians. At the conqueſt of Conſtantinople by the Turks, about the middle of the fifteenth century, ſeveral of the Greeks fled into Italy, and the people of Europe communicating with them, found them to be intelligent, and ſome of them even learned men: the Europeans were thence led to ſtudy the Greek language, in order to read the valuable books which theſe fugitives had ſo much extolled; and among other works, thoſe of Galen particularly attracted the notice of the phyſicians, which, to their great aſtoniſhment, contained all the medical knowledge that had been attributed to the Arabians. To the Greek writers, therefore, the phyſicians of thoſe times cloſely applied their attention, thinking theſe books the only true fountains of medical knowledge; and thus it was that the Galenical doctrines became prevalent all over Europe.*

† *The remarkable circumſtances in the life of Aureolus Philippus Theophraſtus Bombaſtus Paracelſus de Hohenheim, as he called himſelf, are too numerous for inſertion in the narrow limits allotted to theſe notes. He was born at the village of Einſidlen, about 2 German miles from Zurick, in the year 1493. At 3 years old he was made an eunuch by an accident. He travelled all over the continent of Europe, obtaining knowledge in chemiſtry and phyſic, and then travelled about the country practiſing what he had learned. His chief remedies were Opium and Mercury, and his great ſucceſs increaſed his celebrity. He cured the famous printer Frobenius of Baſil of an inveterate diſeaſe; this cure brought him acquainted with Eraſmus, and made him known to the magiſtracy of Baſil, who elected him profeſſor in 1527. He lectured two hours every day. While ſeated in his chair, he burnt, with great ſolemnity, the writings of Galen and Avicenna; and declared to his audience, that if God would not impart the ſecrets of phyſic, it was not only allowable, but even juſtifiable to conſult the devil. He ſoon left Baſil, and continued to ramble about the country, gene-*

which was in direct oppoſition to that of Galen; and, by the efficacy of the medicines employed by Paracelſus and his followers, their ſyſtem came to be received by many: but the ſyſtematic Phyſicians continued to be chiefly Galeniſts, and kept poſſeſſion of the Schools till the middle of the ſeventeenth century. It is not, however, neceſſary here to enter into any further detail reſpecting the fate of thoſe two oppoſite ſects; for the only circumſtance concerning them, which I would wiſh at preſent to point out, is, that, in the writings of both, the explanations they ſeverally attempted to give of the phenomena of health or ſickneſs, turned entirely upon the ſtate of the fluids of the body.

Such was the ſtate of the ſcience of Phyſic till about the middle of the ſeventeenth century, when the circulation of the blood came to be generally known and admitted; and when this, together with the diſcovery of the receptacle of the chyle, and of the thoracic duct, finally exploded the Galenic ſyſtem. About the ſame period a conſiderable revolution had taken place in the ſyſtem of Natural Philoſophy. In the courſe of the ſeventeenth century, Galileo had introduced mathematical reaſoning; and Lord Bacon having propoſed the method of induction, had thereby excited a diſpoſition to obſerve facts, and to make experiments. Theſe new modes of philoſophizing, it might be ſuppoſed, would ſoon have had ſome influence on the ſtate of medicine; but the progreſs of this was ſlow. The knowledge of the Circulation did indeed neceſſarily lead to the conſideration as well as to a clearer view of the Organic Syſtem in animal bodies; which again led to the application of the mechanical philoſophy towards explaining the phenomena of the animal œconomy; and it was applied accordingly, and continued, till very lately, to be the faſhionable mode of reaſoning on the ſubject. Such reaſoning, indeed, muſt ſtill in ſeveral reſpects continue to be applied: but it would be eaſy to ſhow, that it neither could, nor ever can be, applied to any great extent in explaining the animal œconomy; and we muſt therefore look for other circumſtances which had a greater ſhare in modelling the Syſtem of Phyſic.

With this view, it may be remarked, that, till the period juſt now mentioned, every phyſician, whether Galeniſt or Chemiſt, had been ſo much accuſtomed to conſider the ſtate and condition of the fluids, both as the cauſe of diſeaſe, and as the foundation for explaining the operation of medicines, that what we may term an HUMORAL PATHOLOGY ſtill continued to make a great part of every ſyſtem. In theſe circumſtances, it was ſoon perceived, that chemiſtry promiſed a much better explanation than the Galenic or Ariſtotelian

philoſophy

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rally intoxicated, and never changing his clothes, or even going to bed. He died after an illneſs of a few days, in an inn at Saltſburg, in 1541, *in his forty-eighth year, though he had promiſed himſelf, that, by the uſe of his elixir, he ſhould live to the age of Methuſalem.*

philoſophy had done; and, therefore, while the latter was entirely laid aſide, a chemical reaſoning was every where received. Lord Bacon, with his uſual ſagacity, had early obſerved, that chemiſtry promiſed a greater number of facts, and he thereby gave it credit; whilſt the Corpuſcularian philoſophy, reſtored by Gaſſendi, readily united with the reaſonings of the Chemiſts; and the philoſophy of Des Cartes readily united with both. From all theſe circumſtances, an Humoral, and chiefly a Chemical Pathology, came to prevail very much till the end of the laſt century; and has indeed, continued to have a great ſhare in our ſyſtems down to the preſent time.

It is proper now, however, to obſerve, that about the beginning of the preſent century, when every part of ſcience came to be on a more improved and correct footing, there appeared in the writings of STAHL, of HOFFMAN, and of BOERHAAVE, three new, and conſiderably different, Syſtems of Phyſic; which have ever ſince had a great ſhare in directing the practice of it. In order, therefore, to give a nearer view of the preſent ſtate of Phyſic, I ſhall offer ſome remarks upon theſe different ſyſtems; endeavouring to point out the advantages, as well as the diſadvantages of each, and how far they ſtill prevail; or, according to my judgment, deſerve to do ſo.

I ſhall begin with conſidering that of Dr. Stahl, which I think appeared firſt, and for a long time after was the prevailing ſyſtem in Germany.

The chief and leading principle of this ſyſtem is, that the rational ſoul of man governs the whole œconomy of his body. At all times, Phyſicians have obſerved, that the animal œconomy has in itſelf a power or condition, by which, in many inſtances, it reſiſts the injuries which threaten it; and by which it alſo, on many occaſions, corrects or removes the diſorders induced, or ariſing in it. This power, Phyſicians very anciently attributed, under a vague idea, to an agent in the ſyſtem, which they called NATURE; and the language of a *vis conſervatrix et medicatrix naturæ*, has continued in the ſchools of medicine from the moſt ancient times to the preſent.

Dr. Stahl has explicitly founded his ſyſtem on the ſuppoſition that the power of nature, ſo much talked of, is entirely in the rational ſoul. He ſuppoſes that, upon many occaſions, the ſoul acts independently of the ſtate of the body; and that, without any phyſical neceſſity ariſing from that ſtate, the ſoul, purely in conſequence of its intelligence perceiving the tendency of noxious powers threatning, or of diſorders anywiſe ariſing in the ſyſtem, immediately excites ſuch motions in the body as are ſuited to obviate the hurtful or pernicious conſequences which might otherwiſe take place.—Many of my readers may think it was hardly neceſſary for me to take notice of a ſyſtem founded upon ſo fanciful an hypotheſis; but there is often ſo much ſeeming appearance of intelligence and deſign in the operations of the animal œconomy, that many eminent perſons,

ſons, as Perrault in France, Nichols and Mead in England, Porterfield and Simſon in Scotland, and Gaubius in Holland, have very much countenanced the ſame opinion, and it is therefore certainly entitled to ſome regard. It is not, however, neceſſary for me here to enter into any refutation of it. Dr. Hoffman has done this fully, in his *Commentarius de differentia inter Hoffmanni doctrinam medico-mechanicam et G. E. Stahlii medico-organicam ;* and both Boerhaave and Haller, though no favourers of materialiſm, have maintained a doctrine very oppoſite to that of Stahl.

In my Phyſiology I have offered ſome arguments againſt the ſame; and I ſhall only add now, that whoever conſiders what has been ſaid by Dr. Nichols in his *Oratio de Anima Medica*, and by Dr. Gaubius in ſome parts of his Pathology, muſt perceive, that the admitting of ſuch a capricious government of the animal œconomy, as theſe authors in ſome inſtances ſuppoſe would at once lead us to reject all the phyſical and mechanical reaſoning we might employ concerning the human body. Dr. Stahl himſelf ſeems to have been aware of this; and therefore, in his Preface to Juncker's *Conſpectus Therapeia Specialis*, has acknowledged, that his general principle was not at all neceſſary; which is in effect ſaying that it is not compatible with any ſyſtem of principles that ought to govern our practice. Upon this footing, I might have at once rejected the Stahlion principle: but it is even dangerous to bring any ſuch principle into view; for, after all Dr. Stahl had ſaid in the paſſage juſt now referred to, I find, that, in the whole of their practice, both he and his followers have been very much governed by their general principle. Truſting much to the conſtant attention and wiſdom of nature, they have propoſed the *Art of curing by expectation*; have therefore, for the moſt part, propoſed only very inert and frivolous remedies; have zealouſly oppoſed the uſe of ſome of the moſt efficacious, ſuch as opium and the Peruvian bark; and are extremely reſerved in the uſe of general remedies, ſuch as bleeding, vomiting, &c.

Although theſe remarks, upon a ſyſtem which may now be conſidered as exploded or neglected, may ſeem ſuperfluous; I have been willing to give theſe ſtrictures on the Stahlion ſyſtem, that I might carry my remarks a little farther, and take this opportunity of obſerving, that, in whatever manner we may explain what have been called the operations of nature, it appears to me, that the general doctrine of *Nature curing diſeaſes*, the ſo much vaunted *Hippocratic* method of curing, has often had a baneful influence on the practice of phyſic; as either leading phyſicians into, or continuing them in, a weak and feeble practice; and at the ſame time ſuperſeding or dicouraging all the attempts of art. Dr. Huxham has properly obſerved that even in the hands of Sydenham it had this effect. Although it may ſometimes avoid the miſchiefs of bold and raſh practitioners, yet it certainly produces that caution and timidity which have ever oppoſed the introduction of new and efficacious remedies. The oppoſition to chemical medicines in the ſixteenth and ſeventeenth centuries, and the noted condemnation of Antimony by the Medical Faculty of Paris, are to be attributed chiefly to thoſe prejudices, which the phyſicians of France did not entirely get the better of for near an hundred years after. We may take notice of the reſerve it produced in Boerhaave, with reſpect to the uſe of the Peruvian Bark. We have had lately publiſhed, under the title of *Conſtitutiones Epidemicæ*, notes of the particular practice of the late Baron Van Swieten; upon which the editor very properly obſerves, That the uſe of the bark, in intermitting fevers, appears very rarely in that practice; and we know very well where Van Swieten learned that reſerve.

I might go farther, and ſhow how much the attention to the *Autocrateia*, allowed of, in one ſhape or other, by every ſect, has corrupted the practice among all phyſicians, from Hypocrates to Stahl. It muſt, however be ſufficiently obvious, and I ſhall conclude the ſubject with obſerving, that altho' the *vis medicatrix naturæ*, muſt unavoidably be received as a fact; yet wherever it is admitted, it throws an obſcurity upon our ſyſtem; and it is only where the impotence of our art is very manifeſt and conſiderable, that we ought to admit of it in practice.

To finiſh our remarks upon the Stahlion Syſtem, I ſhall ſhortly obſerve, that it did not depend entirely upon the *Autocrateia*, but alſo ſuppoſed a ſtate of the body and diſeaſes, that admitted of remedies; which, under the power and direction of the ſoul, acted upon the organization and matter of the body, ſo as to cure its diſeaſes. Upon this footing, the Stahlion pathology turned entirely upon Plethora and Cacochymy. It was with reſpect to the former that they eſpecially applied their doctrine of the *Autocrateia* in a very fanatical manner; and, with reſpect to the latter, they have been involved in a humoral pathology as much as the ſyſtematic phyſicians who had gone before them, and with a theory ſo incorrect as not to merit the ſmalleſt attention. After all I ought not to diſmiſs the conſideration of the Stahlion ſyſtem, without remarking, that as the followers of this ſyſtem were very intent upon obſerving the method of nature, ſo they were very attentive in obſerving the phenomena of diſeaſes, and have given us in their writings many facts not to be found elſewhere.

While the doctrines of Stahl were prevailing in the univerſity of Halle, Dr. Hoffman,* a profeſſor in the ſame univerſity propoſed a ſyſtem that was very different. He received into his ſyſtem a great deal of the mechanical, Carteſian, and chemical doctrines of the ſyſtems which had appeared before: but, with reſpect to theſe, it is of no conſequence to obſerve in what manner he modified the doctrines of his predeceſſors, as his improvements in theſe reſpects were no ways conſiderable, and no part of them now remain; and the real value of his works, beyond what I am juſt now going to mention, reſts entirely on the many facts they contain. The merit of Dr. Hoffman and of his works is, that he made, or rather ſuggeſted, an addition to the ſyſtem, which highly deſerves our attention. Of this I cannot give a clearer account than by giving it in the author's own words. In his *Medicina Rationalis ſyſtematica*, Tom. III. § 1. chap. iv. he has given his *Genealogia morborum ex turbato ſolidorum et fluidorum mechaniſmo*; and in the 47th and laſt paragraph of this chapter he ſums up his doctrine in the following words: *Ex hiſce autem omnibus uberius hactenus excuſſis, per quam dilucide apparere arbitror quod ſolus* SPASMUS *et ſimplex* ATONIA, *æquabilem, liberum, ac proportionatum ſanguinis omniſque generis fluidorum motum, quibus excretionum ſucceſſus et integritas functionum animi et corporis proxime nititur, turbando ac pervertendo, univerſam vitalem œconomiam ſubruant ac deſtruant; atque hinc univerſa pathologia longe rectius atque facilius* EX VITIO MOTUUM MICROCOSMICORUM IN SOLIDIS, *quam* EX VARIIS AFFECTIONIBUS VITIOSORUM HUMORUM, *deduci atque explicari poſſit, adeoque omnis generis ægridudines internæ, ad* PRÆTERNATURALES GENERIS NERVOSI AFFECTIONES *ſint referendæ. Etænim læſis quocunque modo, vel nervis per corpus diſcurrentibus, vel membranoſis quibuſvis nervoſis partibus, illico motuum anomaliæ, modo leviores, modo graviores ſubſequuntur. Deinde attenta obſervatio docet, motus quoſvis morboſos principaliter ſedem figere et tyrannidem exercere in nervoſis corporis partibus, cujus generis præter omnes canales, qui ſyſtaltico et diaſtaltico motu pollentes, contentos ſuccos tradunt univerſum nimirum inſtinorum et ventriculi ab æſophago ad anum, canalem, totum ſyſtema vaſorum arterioſorum, ductuum biliariorum, ſalivalium, urinariorum et ſubcutaniorum, ſunt quoque membranæ nerveo muſculares cerebri et medullæ ſpinalis, præſertim hæc, quæ dura mater vocatur organis ſenſoriis obductæ, nec non tunicæ illæ ac ligamenta, quæ oſſa cingunt artuſque firmant. Nam nullus dolor, nulla inflamatio, nullus ſpoſmus, null, motus ſenſus impotentia, nulla febris aut humoris illius excretio, accidit in qua non hæ partes patiantur. Porro eteam omnes, quæ morbos gignunt cauſæ operationem ſuam potiſſimam perficiunt in partes motu et ſenſu præditas, et canales ex his coagmentatos, eorum motum, et cum hoc fluidorum curſum pervertendo; ita tamen, ut ſicuti variæ indolis ſunt, ſic etiam va-*

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* *Frederick Hoffman was born at Halle, in the year* 1660. *He graduated in* 1681; *was made profeſſor of phyſic therein the year* 1693; *and filled that chair till his death in* 1742. *A very remarkable circumſtance of his life is, that he never took fees from his patients, but was content with his ſtipend. He was in high repute as a practitioner, and curing the Empe-*

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ror Charles VI. *and Empreſs, and Frederick* I. *of Pruſſia, of inveterate diſeaſes greatly increaſed his reputation. His works are collected into ſix volumes folio, publiſhed at different times from* 1748 *to* 1754. *They abound with many uſeful practical directions; but at the ſame time contain many frivolous remarks, and an abundance of conjectural theory.*

rie in nerveas partes agant, iiſdemque noxam affricent. Demum omnia quoque eximiæ virtutis medicamenta, non tam in partes fluidas, earum craſin ac intemperiem corrigendo, quam potius in ſolidas et nervoſas, earundem motus alterando ac moderando, ſuam edunt operationem : de quibus tamen omnibus, in vulgari uſque eo recepta morborum doctrina, altum eſt ſilentium.

It is true that Dr. Willis[*] had laid a foundation for this doctrine, in his *Pathologia Cerebri et Nervorum ;* and Baglivi had propoſed a ſyſtem of this kind in his *Specimen de fibra motrici et morboſa.* But in theſe writers it was either not extenſively applied to diſeaſes, or was ſtill ſo involved in many phiſiological errors, that they had attracted little attention ; and Dr. Hoffman was the firſt who gave any tolerable ſimple and clear ſyſtem on the ſubject, or pointed out any extenſive application of it to the explanation of diſeaſes.

There can be no ſort of doubt that the phenomena of the animal œconomy in health and in ſickneſs, can only be explained by conſidering the ſtate and affections of the primary moving powers in it. It is to me ſurpriſing that phyſicians were ſo long in perceiving this, and I think we are particularly indebted to Dr. Hoffman for putting us into the proper train of inveſtigation ; and it every day appears that Phyſicians perceive the neceſſity of entering more and more into this inquiry. It was this, I think, which engaged Dr. Kaaw Boerhaave to publiſh his work entitled *Impetum faciens ;* as well as Dr. Gaubus to give the Pathology of the *Solidum vivum.* Even the Baron Van Swieten has upon the ſame view thought it neceſſary, in at leaſt one particular, to make a very conſiderable change in the doctrine of his maſter, as he has done in his Commentary upon the 755th Aphoriſm. Dr. Haller has advanced this part of ſcience very much by his experiments on irritability and ſenſibility. In theſe and in many other inſtances, particularly in the writings of Mr. Barthez of Montpelier, of ſome progreſs in the ſtudy of the affections in the Nervous Syſtem, we muſt perceive how much we are indebted to Dr. Hoffman for his ſo properly beginning it. The ſubject, however, is difficult : the laws of the Nervous Syſtem, in the various circumſtances of the animal œconomy, are by no means aſcertained; and, from want of attention and obſervation with the view to a ſyſtem on this ſubject, the buſineſs appears to many as an inexplica-

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[*] *This illuſtrious phyſician was born at great Bedwin in Wiltſhire in* 1621. *He took the degree of maſter of arts in* 1642 *at Oxford, where he was made profeſſor of natural philoſophy in* 1660 : *and that ſame year he took the degree of M. D. His practice was extenſive and ſucceſsful. He was one of the firſt members of the royal ſociety in London, whither he removed in* 1666 ; *and ſoon made his name as illuſtrious by his writings, as he had already done by his practice. His works had been often printed ſeparately ; but they were not collected till after his death, which happened on the* 11*th of November* 1675. *One edition was publiſhed at Geneva in* 1676, *and another at Amſterdam in* 1682, *both in quarto.*

ble myſtery. There is no wonder therefore that on ſuch a difficult ſubject, Dr. Hoffman's ſyſtem was imperfect and incorrect; and has had leſs influence on the writings and practice of Phyſicians ſince his time, than might have been expected. He himſelf has not applied his fundamental doctrine ſo extenſively as he might have done; and he has every where intermixed an Humoral Pathology, as incorrect and hypothetical as any other. Though he differed from his colleague Dr. Stahl in the fundamental doctrines of his ſyſtem, it is but too evident that he was very much infected with the Stahlian doctrines of Plethora and Cacochymy, as may be obſerved throughout the whole courſe of his work; and particularly in his chapter *De morborum generatione ex nimia ſanguinis quantitate et humorum impuritate.*

But it is needleſs for me to dwell any longer upon the ſyſtem of Hoffman: and I am next to offer ſome remarks on the ſyſtem of Dr. Boerhaave, the cotemporary of both the other Syſtematics, and who, over all Europe, and eſpecially in this part of the world, gained higher reputation than either of the others.

Dr. Boerhaave * was a man of general erudition; and, in applying

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* *Voorhoot, a ſmall village about two miles from Leyden, gave birth to this eminent phyſician on the laſt day of the year* 1668. *He was educated at Leyden, and took his firſt degree in philoſophy in* 1690. *His theſis on this occaſion was a confutation of the doctrines of Epicurus, Hobbes and Spinoſa, in which he ſhewed great ſtrength of genius and argument. Although he was at this time well qualified to enter into the church, which was his father's intention, yet he was diffident of his abilities, and choſe to attend the lectures of divinity longer. His patrimony was however now exhauſted, and he ſupported himſelf at the univerſity by teaching mathematics, while he proſecuted his theological ſtudies. This conduct was much approved by the eminent men both of the Univerſity and City, and procured for Boerhaave the friendſhip of Mr. Vanderburg the Burgomaſter of Leyden. Under the patronage, and at the perſuaſion of this gentleman, Boerhaave applied himſelf to the ſtudy of phyſic with great ardor and indefatigable diligence. In a ſhort time he became a proficient in anatomy, chemiſtry, and the materia medica, which indeed are the baſis of phyſic. Leaving Leyden, he went to the univerſity of Harderwick in Guelderland, and there took his degree of Doctor of Phyſic in July* 1693. *On his return to Leyden he ſtill perſiſted in his intention of entering into the miniſtry, which luckily, for the ſake of Phyſic, was fruſtrated by the following adventure: in a paſſage-boat where Boerhaave was, a diſcourſe was accidentally ſtarted about the doctrines of Spinoſa, as ſubverſive of religion; and one of the paſſengers, with vague invectives of blind zeal, oppoſed this philoſopher's pretended mathematical demonſtration. Boerhaave calmly aſked him if he had read Spinoſa's work, which he had ſo much derided. The bigot was*

ing to medicine, he had carefully ſtudied the auxiliary branches of Anatomy, Chemiſtry, and Botany ſo that he excelled in each. In forming a Syſtem of Phyſic, he ſeems to have ſtudied diligently all the ſeveral writings of both ancient and modern Phyſicians; and without prejudice in favour of any former ſyſtems, he endeavoured to be a candid and genuine eclectic. Poſſeſſed of an excellent ſyſtematic genius, he gave a ſyſtem ſuperior to any that had ever before appeared. As in the great extent, and ſeemingly perfect conſiſtency, of ſyſtem, he appeared to improve and refine upon every thing that had before been offered; and as in his lectures he explained his doctrines with great clearneſs and elegance; he ſoon acquired a very high reputation, and his ſyſtem was more generally received than any former had been ſince the time of Galen. Whoever will conſider the merits of Dr. Boerhaave, and can compare his ſyſtem with that of former writers, muſt acknowledge that he was very juſtly eſteemed, and gave a ſyſtem which was at that time deſervedly valued.

But, in the progreſs of an inquiſitive and induſtrious age, it was not to be expected that any ſyſtem ſhould laſt ſo long as Boerhaave's has done. The elaborate commentary of Van Swieten on Boerhaave's ſyſtem of practice, has been only finiſhed a few years ago; and tho' this Commentator has added many facts, and made ſome corrections, he has not, except in the particular mentioned above, made any improvement in the general ſyſtem. It is even ſurpriſing that Boerhaave himſelf, tho' he lived near forty years after he had firſt formed his ſyſtem, had hardly in all that time made any corrections of it, or additions to it: the following is the moſt remarkable. In Aphoriſm 755, the words *forte et nervoſi, tam cerebri quam cerebelli cordi deſtinati inertia*, did not appear in any edition before the fourth; and what a difference of ſyſtem this points at, every phyſician muſt perceive.

When I firſt applied to the ſtudy of Phyſic, I learned only the ſyſtem of Boerhaave; and even when I came to take a Profeſſor's chair

ſuddenly ſtruck dumb, and became fired with ſilent reſentment. As ſoon as he arrived at Leyden, he ſpread abroad a rumour that Boerhaave was become a Spinoſiſt. Boerhaave finding theſe prejudices to gain ground, thought it more prudent to purſue the ſcience of phyſic, than riſk the refuſal of a licence for the pulpit. He now joined the practice of phyſic to the theory. On the 18th of May, 1701, he commenced his lectures on the Inſtitutes of phyſic. In 1709 he was created profeſſor of Medicine and Botany; and in 1718 he ſucceeded Le Mort in the profeſſorſhip of Chemiſtry. In Auguſt 1722, he was ſeized with the gout, and was obliged to reſign his profeſſorſhip of Chemiſtry and Botany in 1729. He continued for ſome time to practiſe, but was at length obliged to quit that alſo; and he died on the 23d of September, 1738.

chair in this Univerſity, I found that ſyſtem here in its entire and full force; and as I believe it ſtill ſubſiſts in credit elſewhere, and, that no other ſyſtem of reputation has been yet offered to the world, I think it neceſſary for me to point out particularly the imperfections and deficiencies of the Boerhaavian ſyſtem, in order to ſhow the propriety and neceſſity of attempting a new one.

To execute this, however, ſo fully as I might, would lead me into a detail that can hardly be admitted of here; and I hope it is not neceſſary, as I think, that every intelligent perſon, who has acquired any tolerable knowledge of the preſent ſtate of our ſcience, muſt, in many inſtances, perceive its imperfections. I ſhall therefore touch only upon the great lines of this ſyſtem; and from the remarks I am to offer, truſt that both miſtakes and deficiencies which run through the whole of his works will appear.

Dr. Boerhaave's treatiſe of the diſeaſes of the ſimple ſolid, has the appearance of being very clear and conſiſtent, and was certainly conſidered by him as a fundamental doctrine: but, in my apprehenſion, it is neither correct nor extenſively applicable. Not to mention the uſeleſs, and perhaps erroneous, notion of the compoſition of earth and gluten: nor his miſtake concerning the ſtructure of compound membranes; nor his inattention to the ſtate of the cellular texture; all of them circumſtances which render his doctrine imperfect: I ſhall inſiſt only upon the whole being very little applicable to the explaining the phenomena of health or ſickneſs. The laxity or rigidity of the ſimple ſolid, does, indeed, take place at the different periods of life, and may perhaps, upon other occaſions, occur as the cauſe of diſeaſe: but I preſume, that the ſtate of the ſimple ſolid is, upon few occaſions, either changeable or actually changed; and that, in ninety-nine caſes of an hundred, the phenomena attributed to ſuch a change, do truly depend on the ſtate of the *ſolidum vivum*; a circumſtance which Dr. Boerhaave has hardly taken notice of in any part of his work. How much this ſhows the deficiency and imperfection of his ſyſtem, I need not explain. The learned work of Dr. Gaubius, above referred to, as well as many other treatiſes of late authors, point out ſufficiently the defects and imperfections of Boerhaave on this ſubject.

After Dr. Boerhaave has conſidered the diſeaſes of the ſolids, he in the next place attempts to explain the more ſimple diſeaſes of the fluids; and there, indeed, he delivers a more correct doctrine of acid and alkali than had been given before: But, after all, he has done it very imperfectly. We have, indeed, ſince his time, acquired more knowledge upon the ſubject of digeſtion; and ſo much as to know, that a great deal more is yet neceſſary to enable us to underſtand in what manner the animal fluids are formed from the aliments taken in. And although Dr. Boerhaave has fallen into no conſiderable error with reſpect to a morbid acidity in the ſtomach, he could not poſſibly be complete upon that ſubject; and his notion of the effects of acidity in the maſs of blood ſeems to have been entirely miſtaken, and is indeed not conſiſtent with what he himſelf has delivered elſewhere.

His doctrine of alkali is ſomewhat better founded, but is probably carried too far; and the ſtate of alkaleſcency and putrefaction, as well as all the other changes which can take place in the condition of animal fluids, are particulars yet involved in great obſcurity, and are therefore ſtill ſubjects of diſpute.

There is another particular, in which Boerhaave's doctrine concerning the fluids appears to me imperfect and unſatisfactory; and that is, in his doctrine *de Glutinoſo ſpontaneo.* The cauſes which he has aſſigned for it are by no means probable, and the actual exiſtence of it is ſeldom to be proved. Some of the proofs adduced for the exiſtence of a *phlegma calidum,* are manifeſtly founded on a miſtake with reſpect to what has been called the inflammatory cruſt, (ſee Van Swieten's Commentary, page 96.) and the many examples given by Boerhaave of a *glutinoſum* appearing in the human body, *(Aph. 75.)* are all of them nothing more than inſtances of collections or concretions found out of the courſe of the circulation.

If, then, we conſider the imperfection of Dr. Boerhaave's doctrine with reſpect to the ſtate and various condition of the animal fluids; and if at the ſame time we reflect how frequently he and his followers have employed the ſuppoſition of an acrimony or lentor of the fluids, as cauſes of diſeaſe, and for directing the practice; we muſt, as I apprehend, be ſatisfied, that his ſyſtem is not only deficient and incomplete, but fallacious and apt to miſlead. Although it cannot be denied, that the fluids of the human body ſuffer various morbid changes; and that upon theſe, diſeaſes may primarily depend; yet I muſt beg leave to maintain, that the nature of theſe changes is ſeldom underſtood, and more ſeldom ſtill is it known when they have taken place: that our reaſonings concerning them have been, for the moſt part, purely hypothetical; have therefore contributed nothing to improve, and have often miſled, the practice of phyſic. In this, particularly, they have been hurtful, that they have withdrawn our attention from, and prevented our ſtudy of, the motions of the animal ſyſtem, upon the ſtate of which the phenomena of diſeaſes do more certain and generally depend. Whoever, then, ſhall conſider the almoſt total neglect of the ſtate of the moving powers of the animal body, and the prevalence of an hypothetical humoral pathology, ſo conſpicuous in every part of the Boerhaavian Syſtem, muſt be convinced of its very great defects, and perceive the neceſſity of attempting one more correct.

After giving this general view, it is not requiſite to enter into particulars; but, I believe, there are very few pages of his aphoriſms in which there does not occur ſome error or defect; although, perhaps, not to be imputed to the fault of Boerhaave, ſo much as to this, that ſince his time a great collection of new facts has been acquired by obſervation and experiment. This, indeed, affords the beſt and moſt ſolid reaſon for attempting a new ſyſtem: for when many new facts have been acquired, it becomes requiſite that theſe ſhould be incorporated into a ſyſtem, whereby not only particular ſubjects may be improved, but the whole may be rendered more complete, conſiſtent, and uſeful. Every ſyſtem, indeed, muſt be valuable in proportion to the number of facts that it embraces and comprehends; and Monſ. Queſney could not pay a higher compliment to the Syſtem of Boerhaave, than by ſaying that it exhibited *La medicine collective.*

But here it will, perhaps, be ſuggeſted to me, that the only uſeful work on the ſubject of Phyſic, is the making a collection of all the facts that relate to the art, and therefore of all that experience has taught us with reſpect to the cure of diſeaſes. I agree entirely in the opinion; but doubt if it can ever be properly accompliſhed, without aiming at ſome ſyſtem of principles, by a proper induction and generaliſation of facts: at leaſt I am perſuaded that it can be done not only very ſafely, but moſt uſefully in this way. This, however muſt be determined by a trial. I know that the late Mr. Lieutaud has attempted a work on a plan of collecting facts without any reaſoning concerning their cauſes: And while I am endeavouring to give ſome account of the preſent ſtate of Phyſic, I cannot diſmiſs the ſubject without offering ſome remarks upon the promiſing *Synopſis univerſæ medicinæ*, compoſed by the firſt phyſician of a learned and ingenious nation.

In this work there are many facts and much obſervation from the Author's own experience, which may be uſeful to thoſe who have otherwiſe ſome knowledge and diſcernment; but, throughout the whole work, there is ſuch total want of method, arrangement, ſyſtem, or deciſion, that, in my humble opinion, it can be of little uſe, and may prove very perplexing to thoſe who are yet to learn. The diſtinction of the genera of diſeaſes, the diſtinction of the ſpecies of each, and often even that of the varieties, I hold to be a neceſſary foundation of every plan of Phyſic, whether Dogmatical or Empirical. But very little of this diſtinction is to be found in the work of Mr. Lieutaud; and in his preface he tells us, that he meant to neglect ſuch *arguta ſedulitas*. And indeed his method of managing his ſubject muſt certainly interrupt and retard all methodical noſology. His arrangement of diſeaſes is according to no affinity, but that of the ſlighteſt and moſt uninſtructive kind, the place of the body which they happen to affect. His *Generalia et incertæ ſedis*, have hardly any connection at all; the titles, *Rheumatiſms*, *Hypochondriaſis*, *Hydrops*, follow one another. When he does attempt any general doctrine, it is not till long after he has treated of the widelyſcattered particulars. Under each particular title which he aſſumes, he has endeavoured to enumerate the whole of the ſymptoms that ever appeared in a diſeaſe under that title; and this without aiming at any diſtinction between the eſſential and accidental ſymptoms, or marking the ſeveral combinations under which theſe ſymptoms do for the moſt part ſteadily appear. From the concurrence of accidental ſymptoms, the variety of the ſame diſeaſe is frequently conſiderable, a circumſtance neceſſarily perplexing and diſtracting to young practitioners; but it ſeems ſtrange to me, that an experience of thirty years, in conſiderable practice, could do nothing to relieve them.

Mr. Lieutaud has at the ſame time increaſed the confuſion that muſt ariſe from this want of diſtinction, by his conſidering as primary diſeaſes, what appear to me to be the ſymptoms, effects, and ſequels, of other diſeaſes only. Of this I think the *Æſtus morboſus*, *Virum exolutio*, *Dolores*, *Stagnatio ſanguinis*, *Purulentia*, *Tremor*, *Pervigilium*, *Raucedo*, *Suffocatio*, *Vomica*, *Emphyema*, *Singultus*, *Vomitus*, *Dolor Stomachi*, *Teneſmus*, all treated of under ſeparate titles, are examples. A general Symtomatologia may be a very uſeful work, with a view to a Syſtem of Pathology; but, with a view to practice without any Syſtem, it muſt have bad effects, as leading only to a palliative practice, and diverting from the proper efforts towards obtaining a radical cure. Mr. Lieutaud, indeed, has endeavoured to exhibit the ſymptoms above mentioned as ſo many *primary diſeaſes*: but he has ſeldom ſucceeded in this; and, in delivering the practice, he commonly finds it neceſſary to conſider them as ſymptoms, and that not without ſome theory, implied or expreſſed, with reſpect to their proximate cauſes. His title of *Dolores* may be taken as an example of this; and from which it may be readily perceived how far ſuch treatiſes can be really uſeful.

In eſtabliſhing a proper pathology, there is nothing that has been of more ſervice than the diſſection of morbid bodies. Mr. Lieutaud has been much and moſt commendably employed in this way, and in this Synopſis he has endeavoured to communicate his knowledge on the ſubject; but, in my humble opinion, he has ſeldom done it in a manner that can be uſeful. In the ſame way that he has delivered the ſymptoms of diſeaſes without any inſtructive arrangement; ſo, on the ſubject of the appearances after death, he has mentioned every morbid appearance that had ever been obſerved after the diſeaſe of which he is then treating: but theſe appearances are ſtrangely huddled together, without any notice taken of thoſe which belong to one ſet of ſymptoms or to another; and, with regard to the whole, without any attempt to diſtinguiſh between the cauſes of diſeaſes and the cauſes of death; although the want of ſuch diſtinction is the well-known ground of fallacy upon this ſubject. I take for an example, the appearances mentioned as having been obſerved after dropſy. Here morbid appearances, found in every part of the body, in every cavity of it, and in every viſcus contained in theſe cavities, are enumerated; but which of theſe morbid ſtates are more frequent or more rare, and which has been more particularly connected with the different cauſes, or with the different ſtate of ſymptoms previouſly recited, we are not informed, nor has he enabled us to diſcover. In ſhort, the diſſection of morbid bodies has been, and may be, highly uſeful; but in order to be ſo, muſt be under a different management from what we find, either in this Synopſis, or even in the *Hiſtoria Anatomico medica*.

I cannot diſmiſs this ſubject without remarking, that the diſſection of morbid bodies, is chiefly valuable upon account of its leading us to diſcover the proximate cauſes of diſeaſes; and the great and valuable work of the illuſtrious Morgagni is, properly intitled *De ſedibus et* CAUSIS. It may well ſeem ſurpriſing, then, that Lieutaud ſhould find the whole of proximate cauſes *atra caligine merſas*; and that he ſhould never have thought of applying his diſſections towards the aſcertaining at leaſt ſome of theſe.

But let me now proceed to conſider the important part of every practical work, and of this *Synopſis univerſæ medicinæ*: that is, the method of curing diſeaſes.

Here, again, upon the ſame plan as in giving the hiſtories of diſeaſe, the method of cure is delivered by enumerating the whole of the remedies that have ever been employed in a diſeaſe under the title prefixed; without aſſigning the ſpecies, or the circumſtances to which the remedies, though of a very different and ſometimes oppoſite nature, are particularly adapted. On the ſubject of Aſthma, he very juſtly obſerves that phyſicians have been to blame in confounding, under this title, almoſt all the ſpecies of Dyſpnœa; and he himſelf very properly conſiders Aſthma as a diſeaſe diſtinct from all the other caſes of Dyſpnœa. Still, however, he conſiders Aſthma as of many different ſpecies, ariſing from many different cauſes, which till we underſtand better, we cannot attempt to remove. Notwithſtanding all this, he proceeds to deliver a very general cure. *Parum abeſt*, ſays he, *quia ſpecifici titulo gaudeant pectoralia, vulneraria, et incidentia!* But from ſuch language I receive no clear idea; nor can I obtain any clear direction from the enumeration of his medicines. *Baccæ juniperi, gummi, tragacanthum vel ammoniacum, ſapo, aqua picea, terebinthina, &c. quæ tamen haud indiſcriminatim ſunt uſurpanda, ſed pro re nata, delectu opus eſt.* Very juſtly indeed, *delectu opus eſt*; but here, as in many other inſtances, he gives us no ſort of aſſiſtance.

From his endeavours, though not always ſucceſsful, to neglect all ſyſtem, his practice is generally delivered in a very indeciſive manner; or, what has the ſame effect, in a way ſo conditional as will render it always difficult, and often impoſſible, for a young practitioner to follow him. Let us take, for example, his cure of Dropſy. "The "cure may be begun by blood-letting in certain conditions; *but, "in others, it cannot be employed without danger.* It gives relief in dif-

" ficult breathing; *but, after it is practiſed, the ſymptoms are aggravat-" *ed, and rendered more obſtinate.* It is not to be concealed that " ſome perſons have been cured by repeated blood-lettings, or ſpon-" taneous hæmorrhagies; *but it is at the ſame time* known, *that ſuch a* " *remedy inopportunely employed, has in many inſtances haſtened on the fa-* " *tal event.*"

In the ſame manner he treats of vomiting, purging, ſweating, and the uſe of mineral waters; but I muſt confeſs, that he has no where removed any of my doubts or difficulties, and indeed he has ſometimes increaſed them. He ſays, that hepatics, or aperients, ſuch as the *lingua cervina, herbæ capillares, &c.* deſerve commendation; but that, when the diſeaſe has ariſen to a certain degree, they have been, *for the moſt part, found to be uſeleſs.* He obſerves, that the powder of toads given in wine, to the quantity of a ſcruple or more, has ſucceeded with ſeverals.

Such are, commonly, the methods of cure delivered by Mr. Lieutaud, *longiori et forte feliciſſima praxi edoctus.*

It would be tedious to enter further into that detail, which a criticiſm of this immethodical and uninſtructive work might lead me into; but, if the bounds proper for this preface did not prevent me, I would particularly ſhow that the work is far from being free from thoſe reaſonings which the author pretends to avoid, and would affect even to deſpiſe. He ſtill holds the doctrines of the concoction and critical evacuation of morbific matter, doctrines depending upon ſubtile theories, and which, in my opinion, can in no wiſe be aſcertained as matters of fact. Mr. Lieutaud likewiſe is ſtill very much upon the old plan of following Nature, and therefore gives often what I conſider as a feeble and inert practice. The *humectantia, diluentia, demulcentia, et temperantia,* are with him very univerſal remedies, and often thoſe which alone are to be employed.

The mention of theſe medicines might lead me to take notice of Mr Lieutaud's ſecond volume, in which *ab inſula remediorum farragine alienus,* he promiſes a great reformation upon the ſubject: but this falls ſo far ſhort of the idea of Britiſh phyſicians, that I need not make any remarks upon it. With reſpect to his liſt of ſimples, or *Emporetica,* as he is pleaſed to term them, an Engliſh apothecary would ſmile at it; and with reſpect to his *officinalia,* I believe they are to be found no where but in the *Codex Medicamentarius* of Paris; and in his *Magiſtralia* his doſes are generally ſuch as the moſt timid practitioner of this country would hardly deſcend to, and ſuch as none of our practitioners of experience would depend upon. In ſhort, the whole of the work, both with reſpect to the theories with which it abounds, and to the facts which it gives, will not, in my apprehenſion, bear any ſerious criticiſm. But I muſt conclude, and ſhall only ſay further, that ſuch as I have repreſented it, is this work, executed by a man of the firſt rank in the profeſſion. It is indeed for that reaſon I have choſen it as the example of a work, upon the plan of giving facts only, and of avoiding the ſtudy or even the notice of the proximate cauſes of diſeaſes: and with what advantage ſuch a plan is purſued, I ſhall leave my readers to conſider.

In the following treatiſe I have followed a different courſe. I have endeavoured to collect the facts relative to the diſeaſes of the human body, as fully as the nature of the work and the bounds neceſſarily preſcribed to it would admit: But I have not been ſatisfied with giving the facts, without endeavouring to apply them to the inveſtigation of proximate cauſes, and upon theſe to eſtabliſh a more ſcientific and decided method of cure. In aiming at this, I flatter myſelf that I have avoided hypotheſis, and what have been called *theories*. I have, indeed, endeavoured to eſtabliſh many general doctrines, both phyſiological and pathological; but I truſt that theſe are only a generaliſation of facts, or concluſions from a cautious and full induction: and if any one ſhall refuſe to admit, or directly ſhall oppoſe, my general doctrines, he muſt do it by ſhowing that I have been deficient or miſtaken in aſſuming and applying facts. I have, myſelf, been jealous of my being ſometimes imperfect in theſe reſpects; but I have generally endeavoured to obviate the conſequences of this, by proving, that the proximate cauſes which I have aſſigned, are true in fact, as well as deductions from any reaſoning that I may ſeem to have employed. Further, to obviate any dangerous fallacy in propoſing a method of cure, I have always been anxious to ſuggeſt that which, to the beſt of my judgment, appeared to be the method approved of by experience, as much as it was the conſequence of ſyſtem.

Upon this general plan I have endeavoured to form a ſyſtem of phyſic that ſhould comprehend the whole of the facts relating to the ſcience, and that will, I hope, collect and arrange them in better order than has been done before, as well as point out in particular thoſe which are ſtill wanting to eſtabliſh general principles. This which I have attempted, may, like other ſyſtems, hereafter ſuffer a change; but I am confident, that we are at preſent in a better train of inveſtigation than phyſicians were in before the time of Dr. Hoffman. The affections of the motions and moving powers of the animal œconomy, muſt certainly be the leading inquiry in conſidering the diſeaſes of the human body. The inquiry may be difficult; but it muſt be attempted, or the ſubject muſt be deſerted altogether. I have, therefore, aſſumed the general principles of Hoffman, as laid down in the paſſage which I have quoted above: and if I have rendered them more correct, and more extenſive in their application; and, more particularly, if I have avoided introducing the many hypothetical doctrines of the Humoral Pathology which diſfigured both his and all the other ſyſtems which have hitherto prevailed; I hope I ſhall be excuſed for attempting a ſyſtem, which upon the whole may appear new.

EDINBURGH, *Nov.* 1789.

FIRST LINES

OF THE

PRACTICE OF PHYSIC.

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INTRODUCTION.

I.

IN teaching the PRACTICE of PHYSIC, we endeavour to give inſtruction for *diſcerning*, *diſtinguiſhing*, *preventing*, and *curing* diſeaſes, as they occur in particular perſons.

II.

The art of DISCERNING and DISTINGUISHING diſeaſes, may be beſt attained by an accurate and complete obſervation of their phenomena, as theſe occur in concourſe and in ſucceſſion, and by conſtantly endeavouring to diſtinguiſh the peculiar and inſeparable concurrence of ſymptoms, to eſtabliſh a METHODICAL NOSOLOGY, or an arrangement of diſeaſes according to their genera and ſpecies, founded upon obſervation alone, abſtracted from all reaſoning. Such an arrangement I have attempted in another work, to which in the courſe of the preſent I ſhall frequently refer.

III.

The PREVENTION of diſeaſes depends upon the knowledge of their remote cauſes*; which is partly delivered

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* Remote cauſes are of two kinds, viz. the prediſpoſing and the exciting, or, as it is ſometimes called, the occaſional. The prediſpoſing is that which renders the body liable or capable of being af-

delivered in the general Pathology, and partly to be delivered in this treatiſe.

IV.

The CURE of diſeaſes is chiefly, and almoſt unavoidably, founded in the knowledge of their proximate cauſes*. This requires an acquaintance with the Inſtitutions of Medicine; that is, the knowledge of the ſtructure, action, and functions of the human body; of the ſeveral changes which it may undergo; and of the ſeveral powers by which it can be changed. Our knowledge of theſe particulars, however, is ſtill incomplete, is in many reſpects doubtful, and has been often involved in miſtake and error. The doctrine, therefore, of proximate cauſes, founded upon that knowledge, muſt be frequently precarious and uncertain. It is, however, poſſible for a judicious phyſician to avoid what is vulgarly called theory, that is, all reaſoning founded upon hypotheſis, and thereby many of the errors which have formerly taken place in the Inſtitutions of Medicine. It is poſſible alſo for a perſon who has an extenſive knowledge of the facts relative to the animal œconomy in health and in ſickneſs, by a cautious and complete induction, to eſtabliſh many general principles which may guide his reaſoning with ſafety; and while, at the ſame time, a phyſician admits as a foundation of practice thoſe reaſonings only which are

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fected by diſeaſe when the exciting cauſe is applied. No diſeaſe can exiſt without an occaſional cauſe; yet it is neceſſary, that at the ſame time, the ſtate of the body be ſuch as to admit that cauſe to take effect, or act. The prediſpoſing cauſe is inherent in the body; but it may nevertheleſs be induced or changed by an external cauſe ſtill more remote. Thus plethora may be the prediſpoſing cauſe of many diſeaſes, yet that ſame plethora may be induced by various cauſes previouſly acting on the body. The prevention of diſeaſes is to avoid the exciting cauſe, and to correct that ſtate of the body, which renders it capable of being affected by the exciting cauſe.

* Proximate cauſes are thoſe which immediately produce the diſeaſe, and whoſe removal cures the diſeaſe.

are ſimple, obvious and certain, and for the moſt part admits as proximate cauſes thoſe alone that are eſtabliſhed as matters of fact rather than as deductions of reaſoning, he may with great advantage eſtabliſh a ſyſtem of practice chiefly founded on the doctrine of proximate cauſes. But when this cannot be done with ſufficient certainty, the judicious and prudent phyſician will have recourſe to Experience alone; always, however, aware of the hitherto incomplete and fallacious ſtate of Empiriciſm.

V.

With a ſtrict attention to theſe conſiderations in the whole of the following Treatiſe, I proceed to treat of particular diſeaſes in the order of my Methodical Noſology.

◆

PART I.

OF PYREXIÆ, OR FEBRILE DISEASES.

VI.

PYREXIÆ, or febrile diſeaſes, are diſtinguiſhed by the following appearances. After beginning with ſome degree of cold ſhivering, they ſhow ſome increaſe of heat, and an increaſed frequency of pulſe, with the interruption and diſorder of ſeveral functions, particularly ſome diminution of ſtrength in the animal functions.

VII.

Of theſe Pyrexiæ I have formed a claſs, and have ſubdivided it into five orders of Fevers, Inflammations, Eruptions, Hemorrhagies, and Fluxes. See Synopſis Noſologiæ Methodicæ, Edit. 3. 1780.

BOOK

BOOK I.

OF FEVERS.

CHAP. I.

OF THE PHENOMENA OF FEVERS.

VIII.

THOSE diſeaſes are more ſtrictly called Fevers, which have the general ſymptoms of pyrexia, without having along with them any topical affection that is eſſential and primary, ſuch as the other orders of the Pyrexiæ always have.

IX.

Fevers, as differing in the number and variety of their ſymptoms, have been very properly conſidered as of diſtinct genera and ſpecies. But we ſuppoſe, that there are certain circumſtances in common to all the diſeaſes comprehended under this order, which are therefore thoſe eſſentially neceſſary to, and properly conſtituting the nature of fever. It is our buſineſs eſpecially, and in the firſt place, to inveſtigate theſe; and I expect to find them as they occur in the paroxyſm, or fit, of an intermittent fever, as this is moſt commonly formed.

X.

The phenomena to be obſerved in ſuch a paroxyſm are the following. The perſon is affected, firſt, with a languor or ſenſe of debility, a ſluggiſhneſs in motion, and ſome uneaſineſs in exerting it, with frequent yawning and ſtretching. At the ſame time, the face and extremities become pale; the features ſhrink; the bulk of every external part is diminiſhed; and the ſkin, over the whole body, appears conſtricted, as if cold had been applied to it. At the coming on of theſe ſymptoms, ſome coldneſs of the extremities, though little taken notice of by the patient, may be perceived by another perſon. At length, the patient himſelf feels a ſenſation of cold, commonly firſt in his back, but, from thence, paſſing over the whole body; and now his ſkin feels warm to another perſon. The patient's ſenſe of cold increaſing, produces a tremor in all his limbs, with frequent ſucceſſions or rigors of the trunk of the body: When this ſenſe of cold, and its effects, have continued for ſome time, they become leſs violent, and are alternated with warm fluſhings. By degrees, the cold goes off entirely; and a heat, greater than natural, prevails, and continues over the whole body. With this heat, the colour of the ſkin returns, and a preternatural redneſs appears, eſpecially in the face. Whilſt the heat and redneſs come on, the ſkin is relaxed and ſmoothed, but, for ſome time, continues dry. The features of the face, and other parts of the body, recover their uſual ſize, and become even more turgid. When the heat, redneſs, and turgeſcence have increaſed and continued for ſome time, a moiſture appears upon the forehead, and by degrees becomes a ſweat, which gradually extends downwards over the whole body. As this ſweat continues to flow, the heat of the body abates; the ſweat, after continuing ſome time, gradually ceaſes; the body returns to its uſual temperature; and moſt of the functions are reſtored to their ordinary ſtate*.

XI.

This ſeries of appearances give occaſion to divide the

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[*] This deſcription of a paroxyſm is truly admirable. The ſymptoms are moſt accurately deſcribed, and the order of their ſucceſſion moſt ſtrictly attended to by the author.

the paroxyſm into three different ſtages; which are called the COLD, the HOT, and the SWEATING STAGES or *Fits*.

In the courſe of theſe, conſiderable changes happen in the ſtate of ſeveral other functions, which are now to be mentioned.

XII.

Upon the firſt approach of languor, the pulſe becomes ſometimes ſlower, and always weaker than before. As the ſenſe of cold comes on, the pulſe becomes ſmaller, very frequent, and often irregular. As the cold abates, and the heat comes on, the pulſe becomes more regular, hard, and full; and in theſe reſpects, increaſes till the ſweat breaks out. As the ſweat flows, the pulſe becomes ſofter, and leſs frequent, till, the ſweat ceaſing altogether, it returns to its uſual ſtate.

XIII.

The reſpiration alſo ſuffers ſome changes. During the cold ſtage, the reſpiration is ſmall, frequent, and anxious, and is ſometimes attended with a cough: as the hot ſtage comes on, the reſpiration becomes fuller and more free; but continues ſtill frequent and anxious, till the flowing of the ſweat relieves the anxiety, and renders the breathing leſs frequent and more free. With the ceaſing of the ſweat, the breathing returns to its ordinary ſtate.

XIV.

The natural functions alſo ſuffer a change. Upon the approach of the cold ſtage, the appetite for food ceaſes, and does not return till the paroxyſm be over, or the ſweat has flowed for ſome time. Generally, during the whole of the paroxyſm, there is not only a want of appetite, but an averſion from all ſolid, and eſpecially animal food. As the cold ſtage advances, there frequently comes on a ſickneſs and nauſea, which often increaſe to a vomiting of a matter that is for the moſt part bilious. This vomiting commonly puts an end to the cold ſtage, and brings on the hot. As the hot ſtage advances, the nauſea and vomiting abate; and when the ſweat breaks out, they generally ceaſe altogether.

XV.

A conſiderable degree of thirſt is commonly felt during the whole courſe of the paroxyſm. During the cold ſtage, the thirſt ſeems to ariſe from the dryneſs and clammineſs of the mouth and fauces, but during the hot ſtage, from the heat which then prevails over the whole body; and, as the ſweat flows, the mouth becomes moiſter, and the thirſt, together with the heat, gradually abates*.

XVI.

In the courſe of a paroxyſm, there is often a conſiderable change in the ſtate of the ſecretions. The circumſtances juſt now mentioned ſhow it in the ſecretion of the ſaliva and mucus of the mouth; and it is ſtill more remarkable with reſpect to the urine. During the cold ſtage, the urine is almoſt colourleſs, and without cloud or ſediment. In the hot ſtage, it becomes high coloured, but is ſtill without ſediment. After the ſweat has flowed freely, the urine depoſits a ſediment, commonly lateritious, and continues to do ſo for ſome time after the paroxyſm is over.

XVII.

Excepting in certain uncommon caſes which are attended throughout with a diarrhœa, ſtools ſeldom occur till towards the end of a paroxyſm, when commonly a ſtool happens, and which is generally of a looſe kind †.

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* The thirſt in the cold and hot ſtages of the paroxyſm ſeems to be a provident deſign of nature, and has been held forth as an argument for the exiſtence of the vis medicatrix naturæ. The paroxyſm concludes with a profuſe ſweat; the production of this ſweat requires an additional quantity of fluidity; and nature, by means of the thirſt, ſeems anxious to ſupply the quantity of fluid matter neceſſary for the perſpiration that is requiſite to remove the diſeaſe.

† The author's expreſſion is here ſomewhat aukward; the mean-

XVIII.

Analogous to theſe changes in the ſtate of the ſecretions, it frequently happens, that tumours ſubſiſting on the ſurface of the body, ſuffer, during the cold ſtage of fevers, a ſudden and conſiderable detumeſcence; but generally, though not always, the tumours return to their former ſize during the ſweating ſtage. In like manner, ulcers are ſometimes dried up during the cold ſtage; and return again to diſcharge matter during the ſweating ſtage, or after the paroxyſm is over.

XIX.

Certain changes appear alſo in ſenſation and thought. During the cold ſtage, the ſenſibility is often greatly impaired; but when the hot ſtage is formed, the ſenſibility is recovered, and often conſiderably increaſed.

XX.

With reſpect to the intellectual functions, when the cold ſtage comes on, attention and recollection become difficult, and continue more or leſs ſo during the whole paroxyſm. Hence ſome confuſion of thought takes place, and often ariſes to a delirium, which ſometimes comes on at the beginning of the cold ſtage, but more frequently not till the hot ſtage be formed.

XXI.

It belongs alſo to this place to remark, that the cold ſtage ſometimes comes on with a drowſineſs and ſtupor, which often increaſe to a degree that may be called comatoſe, or apoplectic.

XXII.

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ing of the paſſage is, that ſtools ſeldom occur in the two firſt ſtages of a paroxyſm, except in peculiar caſes attended with diarrhœa; and if a ſtool happens about the end of the paroxyſm, it is generally of a looſe kind.

A ſpontaneous diarrhœa always increaſes the violence of the ſymptoms, and the obſtinacy of the diſeaſe. Hence the abſurd practice of preſcribing purges in agues, which never fail to exacerbate the paroxyſms, and prolong their continuance. If any uneaſineſs ariſes from accumulated fæces in the colon or rectum, they may be removed by emollient clyſters.

XXII.

We have ſtill to add, that ſometimes, early in the cold ſtage, a headach comes on; but which, more commonly, is not felt till the hot ſtage be formed, and then is uſually attended with a throbbing of the temples. The headach continues till the ſweat breaks out; but as this flows more freely, that gradually goes off. At the ſame time with the headach, there are commonly pains of the back, and of ſome of the great joints; and theſe pains have the ſame courſe with the headach.

XXIII.

Theſe are nearly the whole, and are at leaſt the chief of the phenomena which more conſtantly appear in the paroxyſm of an intermittent fever; and we have pointed out their ordinary concourſe and ſucceſſion. With reſpect to the whole of them, however, it is to be obſerved, that, in different caſes, the ſeveral phenomena are in different degrees; that the ſeries of them is more or leſs complete; and that the ſeveral parts or ſtages in the time they occupy, are in a different proportion to one another.

XXIV.

It is very ſeldom that a fever conſiſts of a ſingle paroxyſm, ſuch as we have now deſcribed; and it more generally happens, after a certain length of time has elapſed from the ceaſing of the paroxyſm, that the ſame ſeries of phenomena again ariſes, and obſerves the ſame courſe as before; and theſe ſtates of FEVER and APYREXIA often continue to alternate with one another for many times. In ſuch caſes, the length of time from the end of one paroxyſm to the beginning of another, is called an INTERMISSION; and the length of time from the beginning of one paroxyſm to the beginning of another next ſucceeding, is called an INTERVAL.

XXV.

When the diſeaſe conſiſts of a number of paroxyſms, it is generally to be obſerved, that the intervals between them are nearly equal; but theſe intervals are of different lengths in different caſes. The moſt uſual interval is that of forty-eight hours, which is named the TERTIAN period. The next moſt common is that of ſeventy-two hours, and is named the QUARTAN period. Some other intervals are alſo obſerved, particularly one of twenty-four hours, named therefore the QUOTIDIAN; and the appearance of this is pretty frequent. But all other intervals longer than that of the quartan are extremely rare, and probably are only irregularities of the tertian or quartan periods*.

XXVI.

The paroxyſms of pure intermittent fevers are always finiſhed in leſs than twenty-four hours: and though it happens that there are fevers which conſiſt of repeated paroxyſms, without any entire intermiſſion between them; yet in ſuch caſes it is obſerved, that, though the hot and ſweating ſtages of the paroxyſm do not entirely ceaſe before the twenty-four hours from their beginning have expired, they ſuffer, however, before that time, a conſiderable abatement or REMISSION of their violence; and at the return of the quotidian period, a paroxyſm is in ſome ſhape renewed, which runs the ſame courſe as before. This conſtitutes what is called a REMITTENT FEVER.

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* Of the quotidian, tertian, and quartan intermittents there are many varieties and forms; as the double tertian, having a paroxyſm every day, with the alternate paroxyſms ſimilar to one another. The double tertian, with two paroxyſms every other day. The triple tertian, with two paroxyſms on one day, and another on the next. The double quartan, with two paroxyſms on the firſt day, none on the ſecond and third, and two again on the fourth day. The double quartan, with a paroxyſm on the firſt day, another on the ſecond, but none on the third. The triple quartan, with three paroxyſms every fourth day. The triple quartan, with a paroxyſm every day, every fourth paroxyſm being ſimilar.

XXVII.

When in theſe remittents the remiſſion is conſiderable, and the return of a new paroxyſm is diſtinctly marked by the ſymptoms of a cold ſtage at the beginning of it; ſuch fevers retain ſtrictly the apellation of REMITTENTS. But when it happens, as it does in certain caſes, that the remiſſion is not conſiderable, is perhaps without ſweat, and that the returning paroxyſm is not marked by the moſt uſual ſymptoms of a cold ſtage, but chiefly by the aggravation or EXACERBATION of a hot ſtage, the diſeaſe is called a CONTINUED FEVER.

XXVIII.

In ſome caſes of continued fever, the remiſſions and exacerbations are ſo inconſiderable as not to be eaſily obſerved or diſtinguiſhed; and this has led phyſicians to imagine, that there is a ſpecies of fever ſubſiſting for ſeveral days together, and ſeemingly conſiſting of one paroxyſm only This they have called a CONTINENT FEVER; but, in a long courſe of practice, I have not had an opportunity of obſerving ſuch a fever.

XXIX.

It is, however, to be obſerved here, that the fevers of a continued form are to be diſtinguiſhed from one another; and that, while ſome of a very continued form do ſtill belong to the ſection of intermittents, there are others which, though ſtill conſiſting of ſeparate and repeated paroxyſms, yet, as different by their cauſes and circumſtances from intermittents, are to be diſtinguiſhed from the whole of theſe, and are more ſtrictly to be called and conſidered as CONTINUED †.

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† This paſſage is very obſcure: the author's meaning is, that ſome continued fevers put on the appearance of intermittents; but being different, in ſome peculiar and material circumſtances, from intermittents, are not to be claſſed with them.

Such are moſt of thoſe which have been commonly ſuppoſed to be CONTINENT; and thoſe which by moſt writers have been ſimply named CONTINUED; and which term I have employed as the title of a ſection, to be diſtinguiſhed from that of INTERMITTENT.

I ſhall here add the marks by which, in practice, theſe different continued fevers may be diſtinguiſhed from one another.

Thoſe fevers of a continued form, which, however, ſtill belong to the ſection of Intermittents, may be diſtinguiſhed by their having paſſed from an intermittent or remittent form, to that of a continued; by their ſhowing ſome tendency to become intermittent, or at leaſt remittent; by their being known to have been occaſioned by marſh miaſmata; and, for the moſt part, by their having but one paroxyſm, or one exacerbation and remiſſion, in the courſe of twenty-four hours.

On the other hand, Continued Fevers, to be more ſtrictly ſo called, may be diſtinguiſhed by their ſhowing little tendency to become intermittent or remittent in any part of their courſe, and eſpecially after the firſt week of their continuance; by their being occaſioned by human contagion, at leaſt by other cauſes than the marſh miaſmata; and by their having pretty conſtantly an exacerbation and remiſſion twice in the courſe of every twenty-four hours. In both caſes, the knowledge of the nature of the epidemic for the time prevailing, may have a great ſhare in determining the nature of the particular fever.

XXX.

With reſpect to the form, or TYPE, of fevers, this further may be obſerved, That the quartan, while it has the longeſt interval, has, at the ſame time, the longeſt and moſt violent cold ſtage; but, upon the whole, the ſhorteſt paroxyſm: That the tertian, having a ſhorter interval than the quartan, has, at the ſame time, a ſhorter and leſs violent cold ſtage; but a longer paroxyſm: And, laſtly, that the quotidian, with the ſhorteſt interval, has the leaſt of a cold ſtage, but the longeſt paroxyſm.

XXXI.

The type of fevers is ſometimes changed in their courſe. When this happens, it is generally in the following manner: Both tertians and quartans change into quotidians, quotidians into remittents, and theſe laſt become often of the moſt continued kind. In all theſe caſes, the fever has its paroxyſms protracted longer than uſual, before it changes into a type of more frequent repetition.

XXXII.

From all this a preſumption ariſes, that every fever conſiſts of repeated paroxyſms, differing from others chiefly in the circumſtances and repetition of the paroxyſms; and therefore, that it was allowable for us to take the paroxyſm of a pure intermittent as an example and model of the whole.

CHAP. II.

OF THE PROXIMATE CAUSE OF FEVER.

XXXIII.

THE proximate cauſe* of fever ſeems hitherto to have eluded the reſearch of phyſicians; and I ſhall not pretend to aſcertain it in a manner that may remove every difficulty; but I ſhall endeavour to make an approach towards it, and ſuch as, I hope, may be of uſe in conducting the practice in this diſeaſe: while at the ſame time I hope to avoid ſeveral errors which have formerly prevailed on this ſubject.

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* The author, in this chapter, delivers his favourite doctrine of univerſal ſpaſm. It is by no means new, as he himſelf confeſſes in the preface, but borrowed from Hoffman. The author, however, greatly improved the original idea, and brought the ſyſtem to a greater degree of perfection than it had been before. That there are weighty objections againſt it, cannot indeed be denied; it contains however, much ingenuity; and Dr. Cullen, (by introducing it into this univerſity,) raiſed his name high in the annals of medical fame.

XXXIV.

As the hot ſtage of fever is ſo conſtantly preceded by a cold ſtage, we preſume that the latter is the cauſe of the former; and, therefore, that the cauſe of the cold ſtage is the cauſe of all that follows in the courſe of the paroxyſm. See Boerh. Aph. 756.

XXXV.

To diſcover the cauſe of the cold ſtage of fevers, we may obſerve, that it is always preceded by ſtrong marks of a general debility prevailing in the ſyſtem. The ſmallneſs and weakneſs of the pulſe, the paleneſs and coldneſs of the extreme parts, with the ſhrinking of the whole body, ſufficiently ſhow that the action of the heart and larger arteries is, for the time, extremely weakened. Together with this, the languor, inactivity, and debility of the animal motions, the imperfect ſenſations, the feeling of cold, while the body is truly warm, and ſome other ſymptoms, all ſhew that the energy of the brain is, on this occaſion, greatly weakened; and I preſume, that, as the weakneſs of the action of the heart can hardly be imputed to any other cauſe, this weakneſs alſo is a proof of the diminiſhed energy of the brain.

XXXVI.

I ſhall hereafter endeavour to ſhow, that the moſt noted of the remote cauſes of fever, as contagion, miaſmata, cold, and fear, are of a ſedative nature; and therefore render it probable that a debility is induced. Likewiſe, when the paroxyſms of a fever have ceaſed to be repeated, they may again be renewed, and are moſt commonly renewed by the application of debilitating powers. And, further, the debility which ſubſiſts in the animal motions and other functions through the whole of fever, renders it pretty certain that ſedative or debilitating powers* have been applied to the body.

XXXVII.

It is therefore evident, that there are three ſtates which always take place in fever: a ſtate of debility, a ſtate of cold, and a ſtate of heat; and as theſe three ſtates regularly and conſtantly ſucceed each other in the order we have mentioned them, it is preſumed that they are in the ſeries of cauſe and effect with reſpect to one another. This we hold as a matter of fact, even although we ſhould not be able to explain in what manner, or by what mechanical means theſe ſtates ſeverally produce each other.

XXXVIII.

How the ſtate of debility produces ſome of the ſymptoms of the cold ſtage, may perhaps be readily explained; but how it produces all of them, I cannot explain otherwiſe than by referring the matter to a general law of the animal œconomy, whereby it happens, that powers which have a tendency to hurt and deſtroy the ſyſtem, often excite ſuch motions as are ſuited to obviate the effects of the noxious power. This is the VIS MEDICATRIX NATURÆ, ſo famous in the ſchools of phyſic; and it ſeems probable, that many of the motions excited in fever are the effects of this power.

XXXIX.

That the increaſed action of the heart and arteries, which takes place in the hot ſtage of fevers, is to be

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* A purge adminiſtered ſix or ſeven days after the appearance of any paroxyſm, has frequently occaſioned a relapſe, and is a practice that ought to be carefully avoided. I have generally found that purges given in the beginning of the diſeaſe, increaſe the difficulty of curing it.

conſidered as an effort of the *vis medicatrix naturæ*, has been long a common opinion among phyſicians; and I am diſpoſed to aſſert, that ſome part of the cold ſtage may be imputed to the ſame power. I judge ſo, becauſe the cold ſtage appears to be univerſally a means of producing the hot; becauſe cold, externally applied, has very often ſimilar effects; and more certainly ſtill, becauſe it ſeems to be in proportion to the degree of tremor in the cold ſtage, that the hot ſtage proceeds more or leſs quickly to a termination of the paroxyſm, and to a more complete ſolution and longer intermiſſion. See xxx.

XL.

It is to be particularly obſerved, that, during the cold ſtage of fever, there ſeems to be a ſpaſm induced every where on the extremities of the arteries, and more eſpecially of thoſe upon the ſurface of the body. This appears from the ſuppreſſion of all excretions, and from the ſhrinking of the external parts: and although this may perhaps be imputed, in part, to the weaker action of the heart in propelling the blood into the extreme veſſels; yet, as theſe ſymptoms often continue after the action of the heart is reſtored, there is reaſon to believe, that a ſpaſmodic conſtriction has taken place; that it ſubſiſts for ſome time, and ſupports the hot ſtage; for this ſtage ceaſes with the flowing of the ſweat, and the return of other excretions, which are marks of the relaxation of veſſels formerly conſtricted. Hoffman. Med. rat. Syſtem. Tom. IV. P. I. Sect. I. Cap. I. art. 4.

XLI.

The idea of fever, then, may be, that a ſpaſm of the extreme veſſels, however induced, proves an irritation to the heart and arteries; and that this continues till the ſpaſm is relaxed or overcome. There are many appearances which ſupport this opinion; and there is little doubt that a ſpaſm does take place, which proves an irritation to the heart, and therefore may be conſidered as a principle part in the proximate cauſe of fever. It will ſtill, however remain a queſtion, what is the cauſe of this ſpaſm; whether it be directly produced by the remote cauſes of fever, or if it be only a part of the operation of the *vis medicatrix naturæ.*

XLII.

I am diſpoſed to be of the latter opinion, becauſe, in the *firſt* place, while it remains ſtill certain that a debility lays the foundation of fever, it is not obvious in what manner the debility produces the ſpaſm, and, what ſeems to be its effect, the increaſed action of the heart and arteries; and, *ſecondly*, becauſe, in almoſt all the caſes in which an effort is made by the *vis medicatrix naturæ*, a cold fit and a ſpaſm of the extreme veſſels are almoſt always the beginnings of ſuch an effort. See Gaub. Pathol. Medicin. art. 750.

XLIII.

It is therefore preſumed, that ſuch a cold fit and ſpaſm at the beginning of a fever, is a part of the operation of the *vis medicatrix;* but, at the ſame time, it ſeems to me probable, that, during the whole courſe of the fever, there is an atony ſubſiſting in the extreme veſſels, and that the relaxation of the ſpaſm requires the reſtorating of the tone and action of theſe.

XLIV.

This it may be difficult to explain; but I think it may be aſcertained as a fact, by the conſideration of the ſymptoms which take place with reſpect to the functions of the ſtomach in fevers, ſuch as the anorexia, nauſea, and vomiting, (xiv.)

From many circumſtances it is ſufficiently certain, that there is a conſent between the ſtomach and ſurface of the body; and in all caſes of the conſent of diſtant parts, it is preſumed to be by the connection of the nervous ſyſtem, and that the conſent which appears is between the ſentient and moving fibres of the one part with thoſe of the other; is ſuch, that a certain condition prevailing in the one part occaſions a ſimilar condition in the other.

In the caſe of the ſtomach and ſurface of the body, the conſent particularly appears by the connection which is obſerved between the ſtate of the perſpiration and the ſtate of the appetite in healthy perſons; and if it may be preſumed that the appetite depends upon the ſtate of tone in the muſcular fibres of the ſtomach, it will follow, that the connection of appetite and perſpiration depends upon a conſent between the muſcular fibres of the ſtomach and the muſcular fibres of the extreme veſſels, or of the organ of perſpiration, on the ſurface of the body.

It is further in proof of the connection between the appetite and perſpiration, and at the ſame time of the circumſtances on which it depends, that cold applied to the ſurface of the body, when it does not ſtop perſpiration, but proves a ſtimulus to it, is always a powerful means of exciting appetite.

Having thus eſtabliſhed the connection or conſent mentioned, we argue, that as the ſymptoms of anorexia, nauſea, and vomiting, in many caſes, manifeſtly depend upon a ſtate of debility or loſs of tone in the muſcular fibres of the ſtomach; ſo it may be preſumed, that theſe ſymptoms, in the beginning of fever, depend upon an atony communicated to the muſcular fibres of the ſtomach, from the muſcular fibres of the extreme veſſels on the ſurface of the body.

That the debility of the ſtomach which produces vomiting in the beginning of fevers actually depends upon an atony of the extreme veſſels on the ſurface of the body, appears particularly from a fact obſerved by Dr. Sydenham. In the attack of the plague, a vomiting happens, which prevents any medicine from remaining on the ſtomach: and Dr. Sydenham tells us, that in ſuch caſes he could not overcome this vomiting but by external means applied to produce a ſweat: that is, to excite the action of the veſſels on the ſurface of the body.

The ſame connection between the ſtate of the ſtomach and that of the extreme veſſels on the ſurface of the body, appears from this alſo, that the vomiting, which ſo frequently happens in the cold ſtage of fevers, commonly ceaſes upon the coming on of the hot, and very certainly upon any ſweat's coming out, (xiv.) It is indeed probable, that the vomiting in the cold ſtage of fevers, is one of the means employed by nature for reſtoring the determination to the ſurface of the body; and it is a circumſtance affording proof, both of this, and of the general connection between the ſtomach and ſurface of the body, that emetics thrown into the ſtomach, and operating there, in the time of the cold ſtage, commonly put an end to it, and bring on the hot ſtage.

It alſo affords a proof of the ſame connection, that cold water taken into the ſtomach produces an increaſe of heat on the ſurface of the body, and is very often a convenient and effectual means of producing ſweat.

From the whole we have now ſaid on this ſubject, I think it is ſufficiently probable, that the ſymptoms of anorexia, nauſea, and vomiting, depend upon, and are a proof of, an atony ſubſiſting in the extreme veſſels on the ſurface of the body; and that this atony therefore, now aſcertained as a matter of fact, may be conſidered as a principle circumſtance in the proximate cauſe of fever.

XLV.

This atony * we ſuppoſe to depend upon a diminution of the energy of the brain; and that this diminution takes place in fevers, we conclude, not only from the debility prevailing in ſo many of the functions of one body, mentioned above, (xxxv.) but particularly from

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* The reader will perceive, that the whole of the doctrine delivered in this chapter is hypothetical.

from ſymptoms which are peculiar to the brain itſelf. Delirium is a frequent ſymptom of fever: and as from the phyſiology and pathology we learn that this ſymptom commonly depends upon ſome inequality in the excitement of the brain or intellectual organ; we hence conclude, that, in fever, it denotes ſome diminution in the energy of the brain. Delirium, indeed, ſeems often to depend upon an increaſed impetus of the blood in the veſſels of the brain, and therefore attends phrenitis. It frequently appears alſo in the hot ſtage of fevers, accompained with a headach and throbbing of the temples. But as the impetus of the blood in the veſſels of the head is often conſiderably increaſed by exerciſe, external heat, paſſions, and other cauſes, without occaſioning any delirium; ſo, ſuppoſing that the ſame impetus, in the cauſe of fever produces delirium, the reaſon muſt be, that, at the ſame time, there is ſome cauſe which diminiſhes the energy of the brain, and prevents a free communication between the parts concerned in the intellectual functions. Upon the ſame principles alſo, I ſuppoſe there is another ſpecies of delirium, depending more entirely on the diminiſhed energy of the brain, and which may therefore ariſe when there is no unuſual increaſe of the impetus of the blood in the veſſels of the brain. Such ſeems to be the delirium occurring at the beginning of the cold ſtage of fevers, or in the hot ſtage of ſuch fevers as ſhow ſtrong marks of debility in the whole ſyſtem.

XLVI.

Upon the whole, our doctrine of fever is explicitly this. The remote cauſes (xxxv.) are certain ſedative powers applied to the nervous ſyſtem, which diminiſhing the energy of the brain, thereby produce a debility in the whole of the functions, (xxxv.) and particularly in the action of the extreme veſſels, (xliii. xliv.) Such, however, is, at the ſame time, the nature of the animal œconomy, (xxxviii.) that this debility proves an indirect ſtimulus to the ſanguiferous ſyſtem; whence, by the intervention of the cold ſtage, and ſpaſm connected with it, (xxxix. xl.) the action of the heart and larger arteries is increaſed, (xl.) and continues ſo (xli) till it has had the effect of reſtoring the energy of the brain, of extending this energy to the extreme veſſels, of reſtoring therefore their action, and thereby eſpecially overcoming the ſpaſm affecting them; upon the removing of which, the excretion of ſweat, and other marks of the relaxation of excretories, take place.

XLVII.

This doctrine will, as I ſuppoſe, ſerve to explain not only the nature of fever in general, but alſo the various caſes of it which occur. Before proceeding, however, to this, it may be proper to point out the opinions, and, as I apprehend, the miſtakes, which have formerly prevailed on this ſubject.

XLVIII.

It has been ſuppoſed, that a lentor or viſcidity prevailing in the maſs of blood, and ſtagnating in the extreme veſſels is the cauſe of the cold ſtage of fevers and its conſequences. But there is no evidence of any ſuch viſcidity previouſly ſubſiſting in the fluids; and as it is very improbable that ſuch a ſtate of them can be very quickly produced, ſo the ſuddenneſs with which the paroxyſms come on, renders it more likely that the phenomena depend upon ſome cauſe acting upon the nervous ſyſtem, or the primary moving powers of the animal œconomy. See Van Swieten apud Boerh. Aph. 755.

XLIX.

Another opinion which has been almoſt univerſally received, is, that a noxious matter introduced into, or generated in the body, is the proximate cauſe of fever; and that the increaſed action of the heart and arteries, which forms ſo great a part of the diſeaſe, is an effort of the *vis medicatrix naturæ* to expel this morbific matter; and particularly to change or concoct it, ſo as to render it either altogether innocent, or at leaſt, fit for being more eaſily thrown out of the body. This doctrine, however, although of as great antiquity as any of the records of phyſic now remaining, and although it has been received by almoſt every ſchool of medicine, yet appears to me to reſt upon a very uncertain foundation. There are fevers produced by cold, fear, and other cauſes, accompanied with all the eſſential circumſtances of fever, and terminating by ſweat; but, at the ſame time, without any evidence or ſuſpicion of morbific matter.

There have been fevers ſuddenly cured by a hemorrhagy, ſo moderate as could not carry out any conſiderable portion of a matter diffuſed over the whole maſs of blood; nor can we conceive how the morbific matter could be collected or determined to paſs off by ſuch an outlet as in that caſe is opened.

Even ſuppoſing a morbific matter were preſent, there is no explanation given in what manner the concoction of it is performed; nor is it ſhown that any ſuch change does in fact take place. In certain caſes, it is indeed evident, that a noxious matter is introduced into the body, and proves the cauſe of fever: but, even in theſe caſes, it appears that the noxious matter is thrown out again, without having ſuffered any change; that the fever often terminates before the matter is expelled; and that, upon many occaſions, without waiting the ſuppoſed time of concoction, the fever can be cured, and that by remedies which do not ſeem to operate upon the fluids, or produce any evacuation.

L.

While we thus reaſon againſt the notion of fever being an effort of nature, for concocting and expelling a morbific matter; I by no means intend to deny that the cauſe of fever frequently operates upon the fluids, and particularly produces a putreſcent ſtate of them. I acknowledge that this is frequently the caſe: but, at the ſame time, I maintain, that ſuch a change of the fluids is not commonly the cauſe of fever, that very often it is an effect only; and that there is no reaſon to believe the termination of the fever to depend upon the expulſion of the putrid matter.

LI.

Another opinion which has prevailed, remains ſtill to be mentioned. In intermittent fevers, a great quantity of bile is commonly thrown out by vomiting; and this is ſo frequently the caſe, that many have ſuppoſed an unuſual quantity of bile, and perhaps a peculiar quality of it, to be the cauſe of intermittent fevers. This, however, does not appear to be well founded. Vomitting, by whatever means excited, if too often repeated, with violent ſtraining, ſeems to be powerful in emulging the biliary ducts, and commonly throws out a great deal of bile. This will happen eſpecially in the caſe of intermittent fevers. For as, in the ſtate of debility and cold ſtage of theſe fevers, the blood is not propelled in the uſual quantity into the extreme veſſels, and particularly into thoſe on the ſurface of the body, but is accumulated in the veſſels of the internal parts, and particularly in the vena portarum; ſo this may occaſion a more copious ſecretion of bile.

Theſe conſiderations will, in ſome meaſure, account for the appearance of an unuſual quantity of bile in intermittent fevers; but the circumſtance which chiefly occaſions the appearance of bile in theſe caſes, is the influence of warm climates and ſeaſons. Theſe ſeldom fail to produce a ſtate of the human body, in which the bile is diſpoſed to paſs off, by its ſecretories, in greater quantity than uſual; and perhaps alſo changed in its quality, as appears from the diſeaſe of cholera, which ſo frequently occurs in warm ſeaſons. At the ſame time, this diſeaſe occurs often without fever; and we ſhall hereafter render it ſufficiently probable, that intermittent fevers, for the moſt part, ariſe from another cauſe, that is, from marſh effluvia; while on the other hand, there is no evidence of their ariſing from the ſtate of the bile alone. The marſh effluvia, however, commonly operate moſt powerfully in the ſame ſeaſon that produces the change of and redundance of the bile; and therefore conſidering the vomiting, and other circumſtances of the intermittent fevers which here concur, it is not ſurpriſing that autumnal intermittents are ſo often attended with effuſions of bile.

This view of the ſubject does not lead us to conſider the ſtate of the bile as the cauſe of intermittents, but merely as a circumſtance accidentally concurring with them, from the ſtate of the ſeaſon in which they ariſe. What attention this requires in the conduct of the diſeaſe, I ſhall conſider hereafter.

LII.

From this view of the principal hypotheſes which have hitherto been maintained with reſpect to the proximate cauſe of fever, it will appear, that fevers do not ariſe from changes in the ſtate of the fluids; but that, on the contrary, almoſt the whole of the phenomena of fevers lead us to believe, that they chiefly depend upon changes in the ſtate of the moving powers of the animal ſyſtem. Tho' we ſhould not be able to explain all the circumſtances of the diſeaſe, it is at leaſt of ſome advantage to be led into the proper train of inveſtigation. I have attempted to purſue it; and ſhall now endeavour to apply the doctrine already delivered, towards explaining the diverſity of fevers. /

CHAP. III.

OF THE DIFFERENCE OF FEVERS, AND ITS CAUSES.

LIII.

TO aſcertain the difference of fevers, I think it neceſſary to obſerve, in the firſt place, that every fever of more than one day's duration, conſiſts of repeated and in ſome meaſure ſeparate, paroxyſms; and that the difference of fevers taken notice of above (from xxv. to xxx.) appears to conſiſt in the different ſtate of paroxyſms, and in the different circumſtances of their repetition.

LIV.

That fevers generally conſiſt of diſtinct, and in ſome meaſure ſeparately repeated, paroxyſms, I have alleged above to be a matter of fact; but I ſhall here endeavour to confirm it, by aſſigning the cauſe.

LV.

In every fever, in which we can diſtinctly obſerve any number of ſeparate paroxyſms, we conſtantly find that each paroxyſm is finiſhed in leſs than twenty-four hours; but as I cannot perceive any thing in the cauſe of fevers determining to this, I muſt preſume it to depend on ſome general law * of the animal œconomy. Such a law ſeems to be that which ſubjects the œconomy, in many reſpects, to a diurnal revolution. Whether this depends upon the original conformation of the body, or upon certain powers conſtantly applied to it, and inducing a habit, I cannot poſitively determine: but the returns of ſleep and watching, of appetites and excretions, and the changes

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* The reader will find entertainment in admiring the ingenuity of the author, in contriving ſeveral articles for maintaining his doctrine. One hypotheſis piled on the top of another, almoſt without end.

ges which regularly occur in the ſtate of the pulſe, ſhow ſufficiently, that in the human body a diurnal revolution takes place.

LVI.

It is this diurnal revolution which, I ſuppoſe, determines the duration of the paroxyſms of fevers; and the conſtant and univerſal limitation of theſe paroxyſms, (as obſerved in lv.) while no other cauſe of it can be aſſigned, renders it ſufficiently probable that their duration depends upon, and is determined by, the revolution mentioned. And that theſe paroxyſms are connected with that diurnal revolution, appears further from this, that though the intervals of paroxyſms are different in different caſes, yet the times of the acceſſion of paroxyſms are generally fixed to one time of the day; ſo that Quotidians come on in the morning, Tertians at noon, and Quartans in the afternoon.

LVII.

It remains to be remarked, that as Quartans and Tertians are apt to become Quotidians, theſe to paſs into the ſtate of Remittents, and theſe laſt to become Continued; and that, even in the Continued form, daily exacerbations and remiſſions are generally to be obſerved: ſo all this ſhows ſo much the power of diurnal revolution, that when, in certain caſes, the daily exacerbations and remiſſions are with difficulty diſtinguiſhed, we may ſtill preſume, that the general tendency of the œconomy prevails, that the diſeaſe ſtill conſiſts of repeated paroxyſms, and, upon the whole, that there is no ſuch diſeaſe as that which the ſchools have called a Continent fever. I expect that this doctrine will be confirmed by what I ſhall ſay hereafter concerning the periodical movements obſerved in continued fevers.

LVIII.

It being thus proved, that every fever, of more than one day's duration, conſiſts of repeated paroxyſms; we in the next place remark, that the repetition of paroxyſms depends upon the circumſtances of the paroxyſms which have already taken place. From what was obſerved in xxx, and xxxi, it appears, that the longer paroxyſms are protracted, they are the ſooner repeated; and, therefore, that the cauſe of the frequent repetition is to be ſought for in the cauſe of the protraction of paroxyſms.

LIX.

Agreeably to what is laid down in xlvi, and to the opinion of moſt part of phyſicians, I ſuppoſe, that, in every fever, there is a power applied to the body, which has a tendency to hurt and deſtroy it, and produces in it certain motions which deviate from the natural ſtate; and, at the ſame time, in every fever which has its full courſe, I ſuppoſe, that, in conſequence of the conſtitution of the animal œconomy, there are certain motions excited, which have a tendency to obviate the effects of the noxious power, or to correct and remove them. Both theſe kinds of motion are conſidered as conſtituting the diſeaſe.

But the former is perhaps ſtrictly the morbid ſtate, while the latter is to be conſidered as the operation of the *vis medicatrix naturæ*, of ſalutary tendency, and which I ſhall hereafter call the REACTION of the ſyſtem.

LX.

Upon the ſuppoſition that theſe two ſtates take place in every paroxyſm of fever, it will appear to be chiefly in the time of the hot ſtage that the reaction operates in removing the morbid ſtate; and therefore, as this operation ſucceeds more or leſs quickly, the hot ſtage of paroxyſms will be ſhorter or longer. But as the length of paroxyſm depends chiefly upon the duration of the hot ſtage, ſo the longer duration of this and of paroxyſms, muſt be owing either to the obſtinacy of re-

reſiſtance in the morbid ſtate, or to the weakneſs of the ſalutary reaction; and it is probable that ſometimes the one and ſometimes the other of theſe circumſtances takes place.

LXI.

It ſeems to be only by the ſtate of the ſpaſm, that we can judge of the reſiſtance of the morbid ſtate of fever: and with reſpect to this ſpaſm I obſerve, that either the cauſe exciting it may be different in different caſes; or, though the cauſe ſhould be the ſame in different perſons, the different degree of irritability, in each may give occaſion to a greater or leſſer degree of ſpaſm; and therefore, the reaction in fever being given, the continuance of the hot ſtage, and of the whole paroxyſm, may be longer or ſhorter, according to the degree of ſpaſm that has been formed.

LXII.

One cauſe of the obſtinacy of ſpaſm in fevers may be clearly perceived. In inflammatory diſeaſes, there is a diatheſis phlogiſtica prevailing in the body, and this diatheſis we ſuppoſe to conſiſt in an increaſed tone of the whole arterial ſyſtem. When, therefore, this diatheſis accompanies fever, as it ſometimes does, it may be ſuppoſed to give occaſion to the febrile ſpaſm's being formed more ſtrongly, and thereby to produce more protracted paroxyſms. Accordingly we find, that all inflammatory fevers are of the continued kind; and that all the cauſes of the diatheſis phlogiſtica have a tendency to change intermittent into continued fevers. Continued fevers, then, being often attended with the diatheſis phlogiſtica, we conclude, that, in many caſes, this is the cauſe of their continued form.

LXIII.

In many fevers, however, there is no evidence of any diatheſis phlogiſtica being preſent, nor of any other cauſe of more conſiderable ſpaſm; and, in ſuch caſes, therefore, we muſt impute the protraction of paroxyſms, and the continued form of the fever, to the weakneſs of reaction. That this cauſe takes place, we conclude from hence, that, in many caſes of fever, wherein the ſeparate paroxyſms are the longeſt protracted, and the moſt difficultly obſerved, we find the moſt conſiderable ſymptoms of a general debility: and therefore we infer, that, in ſuch caſes, the protracted paroxyſms, and continued form, depend upon a weaker reaction; owing either to the cauſes of debility applied having been of a more powerful kind, or from circumſtances of the patient's conſtitution favouring their operation.

LXIV.

Upon theſe principles we make a ſtep towards explaining in general, with ſome probability, the difference of fevers; but muſt own, that there is much doubt and difficulty in applying the doctrine to particular caſes. It applies tolerably well to explain the different ſtates of intermittents, as they are more purely ſuch, or as they approach more and more to the continued form: But ſeveral difficulties ſtill remain with reſpect to many circumſtances of intermittents; and more ſtill with reſpect to the difference of thoſe continued fevers, which we have diſtinguiſhed in our Noſology as different from intermittents, and as more eſpecially entitled to the appellation of Continued, (ſee Syn. Noſ. Meth. P. V. Ch. I. Sect. II.) and explained more fully above.

LXV.

From the view given (lxiii. and lxiv.) of the cauſes of the protraction of paroxyſms, and therefore of the form of Continued fevers, ſtrictly ſo called, it ſeems probable, that the remote cauſes of theſe operate by occaſioning either a phlogiſtic diatheſis, or a weaker reaction; for we can obſerve, that the moſt obvious difference of continued fevers depends upon the prevalence of one or other of theſe ſtates.

LXVI.

Continued fevers have been accounted of great diverſity; but phyſicians have not been ſucceſsful in marking theſe differences, or in reducing them to any general heads. The diſtinctions made by the ancients are not well underſtood; and, ſo far as either they or the modern noſologiſts have diſtinguiſhed continued fevers by a difference of duration, their diſtinctions are not well founded, and do not apply in ſuch a manner as to be of any uſe. We think it agreeable to obſervation, and to the principles above laid down, (lxiii. lxiv.) to diſtinguiſh continued fevers according as they ſhow either an inflammatory irritation or a weaker rectaion.

LXVII.

This diſtinction is the ſame with that of fevers into the INFLAMMATORY and NERVOUS; the diſtinction at preſent moſt generally received in Britain. To the firſt, as a genus, I have given the name of Synochus; to the ſecond, that of Typhus; and little ſtudious whether theſe names be authoriſed by the ancient uſe of the ſame terms, I depend upon their being underſtood by the characters* annexed to them in our Noſology, which I apprehend to be founded on obſervation.

LXVIII.

By theſe characters I think continued fevers may in practice be diſtinguiſhed; and if that be the caſe, the principles above laid down will be confirmed.

LXIX.

Beſide theſe differences of continued fever, now mentioned, I am not certain of having obſerved any other that can be conſidered as fundamental. But the moſt common form of continued fevers, in this climate, ſeems to be a combination of theſe two genera; and I have therefore given ſuch a genus a place in our Noſology, under the title of Synochus. At the ſame time, I think that the limits between the Synochus and Typhus will be with difficulty aſſigned; and I am diſpoſed to believe, that the Synochus ariſes from the ſame cauſes as the Typhus, and is therefore only a variety of it.

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* Theſe characters are, Synocha. Calor plurimum auctus; pulſus frequens, validus, et durus; urina rubra; ſenſorii functiones plurimum turbatæ; vires multum imminutæ.

LXX.

The Typhus ſeems to be a genus comprehending ſeveral ſpecies. Theſe, however, are not yet well aſcertained by obſervation; and in the mean time we can perceive that many of the different caſes obſerved do not imply any ſpecific difference, but ſeem to be merely varieties, ariſing from a different degree of power in the cauſe, from different circumſtances of the climate or ſeaſon in which they happen, or from different circumſtances in the conſtitution of the perſons affected.

LXXI.

Some of the effects ariſing from theſe circumſtances require to be particularly explained.

One is, an unuſual quantity of bile appearing in the courſe of the diſeaſe. This abundance of bile may poſſibly attend ſome continued fevers, ſtrictly ſo called; but, for the reaſons above explained, it more commonly attends intermittents, and, we believe, it might have been enumerated (xxix.) among the marks diſtinguiſhing the latter kind of fevers from the former. But though an unuſual quantity of bile ſhould appear with continued fevers, it is conſidered in this caſe, as in that of intermittents, to be a coincidence only, owing to the ſtate of the ſeaſon, and producing no different ſpecies or fundamental diſtinction, but merely a variety of the diſeaſe. I think it proper to obſerve here, that it is probable that the moſt part of the continued fevers named Bilious have been truly ſuch as belong to the ſection of Intermittents.

LXXII.

Another effect of the circumſtances occaſionally varying the appearance of typhus, is a putreſcent ſtate of the fluids. The ancients, and likewiſe the moderns, who are in general much diſpoſed to follow the former, have diſtinguiſhed fevers, as putrid, and non-putrid: but the notions of the ancients, on this ſubject, were not ſufficiently correct to deſerve much notice; and it is only of late that the matter has been more accurately obſerved, and better explained.

From the diſſolved ſtate of the blood, as it preſents itſelf when drawn out of the veins, or as it appears from the red blood's being diſpoſed to be effuſed and run off by various outlets, and from ſeveral other ſymptoms to be hereafter mentioned, I have now no doubt, how much ſoever it has been diſputed by ſome ingenious men, that a putreſcency of the fluids to a certain degree does really take place in many caſes of fever. This putreſcency, however, often attends intermittent, as well as continued fevers, and, of the continued kind, both the ſynochus and typhus, and all of them in very different degrees; ſo that, whatever attention it may deſerve in practice, there is no fixing ſuch limits to it as to admit of eſtabliſhing a ſpecies under the title of Putrid.

LXXIII.

Beſide differing by the circumſtances already mentioned, fevers differ alſo by their being accompanied with ſymptoms which belong to diſeaſes of the other orders of pyrexiæ. This ſometimes happens in ſuch a manner, as to render it difficult to determine which of the two is the primary diſeaſe. Commonly, however, it may be aſcertained by the knowledge of the remote cauſe, and of the prevailing epidemic, or by obſerving the ſeries and ſucceſſion of ſymptoms.

LXXIV.

Moſt of our ſyſtems of phyſic have marked, as a primary one, a ſpecies of fever under the title of HECTIC; but, as it is deſcribed, I have never ſeen it as a primary diſeaſe. I have conſtantly found it as a ſymptom of ſome topical affection, moſt commonly of an internal ſuppuration; and as ſuch it ſhall be conſidered in another place.

LXXV.

The diſtinction of the ſeveral caſes of intermittent fever I have not proſecuted here; both becauſe we cannot aſſign the cauſes of the differences which appear, and becauſe I apprehend that the differences which in fact occur may be readily underſtood from what is ſaid above (xxv, xxvi, xxvii.), and more fully from our Methodical Noſology, Ch. I. Sect. I.

CHAP. IV.

OF THE REMOTE CAUSE OF FEVER.

LXXVI.

AS fever has been held to conſiſt chiefly in an increaſed action of the heart and arteries, phyſicians have ſuppoſed its remote cauſes to be certain direct ſtimulants fitted to produce this increaſed action. In many caſes, however, there is no evidence of ſuch ſtimulants being applied; and, in thoſe in which they are applied, they either produce only a temporary frequency of the pulſe, which cannot be conſidered as a diſeaſe; or, if they do produce a permanent febrile ſtate, it is by the intervention of a topical inflammation, which produces a diſeaſe different from what is ſtrictly called fever. (viii.)

LXXVII.

That direct ſtimulants are the remote cauſes of fever, ſeems farther improbable; becauſe the ſuppoſition does not account for the phenomena attending the acceſſion of fevers, and becauſe other remote cauſes can with greater certainty be aſſigned.

LXXVIII.

As fevers are ſo generally epidemic, it is probable, that ſome matter floating in the atmoſphere, and applied to the bodies of men, ought to be conſidered as the remote cauſe of fevers; and theſe matters preſent in the atmoſphere, and thus acting upon men, may be conſidered, either as CONTAGION, that is, effluvia ariſing directly or originally from the body of a man under a particular diſeaſe, and exciting the ſame kind of diſeaſe in the body of the perſon to whom they are applied; or MIASMATA, that is, effluvia ariſing from other ſubſtances than the bodies of men, producing a diſeaſe in the perſon to whom they are applied.

LXXIX.

Contagions have been ſuppoſed to be of great variety; and it is poſſible this may be the caſe: but that they truly are ſo, does not appear clearly from any thing we know at preſent. The genera and ſpecies of contagious diſeaſes of the claſs of Pyrexiæ, at preſent known, are in number not very great. They chiefly belong to the order of fevers, to that of Exanthemata, or that of Profluvia. Whether there be any belonging to the order of Phlegmaſiæ, is doubtful; and though there ſhould, it will not much increaſe the number of contagious pyrexiæ. Of the contagious exanthemata and profluvia, the number of ſpecies is nearly aſcertained; and each of them is ſo far of a determined nature, that though they have now been obſerved and diſtinguiſhed for many ages, and in many different parts of the world, they have been always found to retain the ſame general character, and to differ only in circumſtances, that may be imputed to ſeaſon, climate, and other external cauſes, or to the peculiar conſtitutions of the ſeveral perſons affected. It ſeems, therefore, probable, that, in each of theſe ſpecies, the contagion is of one ſpecific nature; and that the number of contagious exanthemata or profluvia is hardly greater than the number of ſpecies enumerated in the ſyſtems of noſology.

LXXX.

If, while the contagious exanthemata and profluvia are thus limited, we ſhould ſuppoſe the contagious pyrexiæ to be ſtill of great and unlimited variety, it muſt be with reſpect to the genera and ſpecies of continued fevers. But if I be right in limiting, as I have done, the genera of theſe fevers, (lxvii.——lxx.) it will appear likely that the contagions which produce them are not of great variety: and this will be much confirmed, if we can render it probable that there is one principal, perhaps one common, ſource of ſuch contagions.

LXXXI.

To this purpoſe it is now well known, that the effluvia conſtantly ariſing from the living human body, if long retained in the ſame place, without being diffuſed in the atmoſphere, acquire a ſingular virulence; and, in that ſtate, being applied to the bodies of men, become the cauſe of a fever which is highly contagious.

The exiſtence of ſuch a cauſe is fully proved by the late obſervations on jail and hoſpital fevers: and that the ſame virulent matter may be produced in many other places, muſt be ſufficiently obvious: and it is probable that the contagion ariſing in this manner, is not, like many other contagions, permanent and conſtantly exiſting; but that, in the circumſtances mentioned, it is occaſionally generated. At the ſame time, the nature of the fevers from thence, upon different occaſions, ariſing, renders it probable that the virulent ſtate of human effluvia is the common cauſe of them, as they differ only in a ſtate of their ſymptoms; which may be imputed to the circumſtances of ſeaſon, climate, &c. concurring with the contagion, and modifying its force.

LXXXII.

With reſpect to theſe contagions, though we have ſpoken of them as of a matter floating in the atmoſphere, it is proper to obſerve, that they are never found to act but when they are near to the ſources from whence they ariſe; that is, either near to the bodies of men, from which they immediately iſſue; or near to ſome ſubſtances which, as having been near to the bodies of men, are imbued with their effluvia, and in which ſubſtances theſe effluvia are ſometimes retained in an active ſtate for a very long time.

The ſubſtances thus imbued with an active and infectious matter, may be called, *Fomites;* and it appears to me probable, that contagions, as they ariſe from fomites, are more powerful than as they ariſe immediately from the human body.

LXXXIII.

Miaſmata are next to be conſidered. Theſe may ariſe from various ſources, and be of different kinds; but we know little of their variety, or of their ſeveral effects. We know with certainty only one ſpecies of miaſma, which can be conſidered as the cauſe of fever; and, from the univerſality of this, it may be doubted if there be any other.

LXXXIV.

The miaſma, ſo univerſally the cauſe of fever, is that which ariſes from marſhes or moiſt ground, acted upon by heat. So many obſervations have now been made with reſpect to this, in ſo many different regions of the earth, that there is neither any doubt of its being in general a cauſe of fevers, nor of its being very univerſally the cauſe of intermittent fevers, in all their different forms. The ſimilarity of the climate, ſeaſon, and ſoil, in the different countries in which intermittents ariſe, and the ſimilarity of the diſeaſes, though ariſing in difference regions, concur in proving, that there is one common cauſe of theſe diſeaſes, and that this is the marſh miaſma.

What is the particular nature of this miaſma, we know not; nor do we certainly know whether or not it differs in kind; but it is probable that it does not; and that it varies only in the degree of its power, or perhaps as to its quantity, in a given ſpace.

LXXXV.

It has been now rendered probable, that the remote cauſes of fevers (viii.) are chiefly Contagions or Miaſmata, and neither of them of great variety. We have ſuppoſed that miaſmata are the cauſe of intermittents, and contagions the cauſe of continued fevers, ſtrictly ſo named; but we cannot with propriety employ theſe general terms. For, as the cauſe of continued fevers may ariſe from fomites, and may, in ſuch caſes, be called a Miaſma; and as other miaſmata alſo may produce contagious diſeaſes; it will be proper to diſtinguiſh the cauſes of fevers, by uſing the terms *Human* or *Marſh Effluvia*, rather than the general ones of Contagion Miaſma.

LXXXVI.

To render our doctrine of fever conſiſtent and complete, it is neceſſary to add here, that thoſe remote cauſes of fever, human and marſh effluvia, ſeem to be of a debilitating or ſedative quality. They ariſe from a putreſcent matter. Their production is favoured, and their power increaſed, by circumſtances which favour putrefaction; and they often prove putrefactive ferments with reſpect to the animal fluids. As putrid matter, therefore, is always, with reſpect to animal bodies,

dies, a powerful ſedative, ſo it can hardly be doubted, that human and marſh effluvia are of the ſame quality; and it is confirmed by this, that the debility which is always induced, ſeems to be in proportion to the other marks that appear of the power of thoſe cauſes.

LXXXVII.

Though we have endeavoured to ſhow that fevers generally ariſe from marſh or human effluvia, we cannot, with any certainty, exclude ſome other remote cauſes, which are commonly ſuppoſed to have at leaſt a ſhare in producing thoſe diſeaſes. And I proceed, therefore, to enquire concerning theſe cauſes; the firſt of which that merits attention, is the power of cold applied to the human body.

LXXXVIII.

The operation of cold on a living body, is ſo different in different circumſtances, as to be of difficult explanation; it is here, therefore, attempted with ſome diffidence.

The power of cold may be conſidered as abſolute or relative.

The *abſolute* power is that by which it can diminiſh the temperature of the body to which it is applied. And thus, if the natural temperature of the human body is, as we ſuppoſe it to be, that of 98 degrees of Farenheit's thermometer*; every degree of temperature leſs than that, may be conſidered as cold with reſpect to the human body; and, in proportion to its degree, will have a tendency to diminiſh the temperature of the body. But as the living human body has in itſelf a power of generating heat, ſo it can ſuſtain its own proper heat to the degree above mentioned, though ſurrounded by air or other bodies of a lower temperature than itſelf; and it appears from obſervation,

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* In every inſtance of our mentioning degrees of heat or cold, we ſhall mention them by the degrees in Farenheit's ſcale; and the expreſſion of higher or lower ſhall always be according to that ſcale.

tion, that, in this climate, air, or other bodies applied to the living man, do not diminiſh the temperature of his body, unleſs the temperature of the bodies applied be below 62 degrees. From hence it appears, that the abſolute power of cold in this climate, does not act upon the living human body, unleſs the cold applied be below the degree juſt now mentioned.

It appears alſo that the human body's being ſurrounded by air of a lower temperature than itſelf, is neceſſary to its being retained in its proper temperature of 98 degrees: for, in this climate, every temperature of the air above 62 degrees, applied to the human body, though ſtill of a lower temperature than itſelf, is found to increaſe the heat of it. And from all this it appears, that the abſolute power of cold with reſpect to the human body, is very different from what it is with reſpect to inanimate bodies.

LXXXIX.

The *relative* power of cold with reſpect to the living human body, is that power by which it produces a ſenſation of cold in it; and with reſpect to this, it is agreeable to the general principle of ſenſation, that the ſenſation produced, is not in proportion to the abſolute force of impreſſion, but according as the new impreſſion is ſtronger or weaker than that which had been applied immediately before. Accordingly, with reſpect to temperature, the ſenſation produced by any degree of this, depends upon the temperature to which the body had been immediately before expoſed; ſo that whatever is higher than this feels warm, and whatever is lower than it, feels cold; and it will therefore happen that the oppoſite ſenſations of heat and cold may on different occaſions ariſe from the ſame temperature, as marked by the thermometer.

With reſpect to this, however, it is to be obſerved, that though every change of temperature gives a ſenſation of cold or heat as it is lower or higher than the temperature applied immediately before, the ſenſation produced is, in different caſes, of different duration. If the temperature at any time applied is under 62 degrees, every increaſe of temperature applied will give a ſenſation of heat; but if the increaſe of temperature does not ariſe to 62 degrees, the ſenſation produced will not continue long, but be ſoon changed to a ſenſation of cold. In like manner, any temperature, applied to the human body, lower than that of the body itſelf, gives a ſenſation of cold; but if the temperature applied does not go below 62 degres, the ſenſation of cold will not continue long, but be ſoon changed to a ſenſation of heat.

It will appear hereafter, that the effects of the ſenſation of cold will be very different, according as it is more permanent or tranſitory.

XC.

Having thus explained the operation of cold as abſolute or relative with reſpect to the human body, I proceed to mention the general effects of cold upon it.

1. Cold, in certain circumſtances, has manifeſtly a *ſedative* power. It can extinguiſh the vital principle entirely, either in particular parts, or in the whole body; and conſidering how much the vital principle of animals depends upon heat, it cannot be doubted that the power of cold is always more or leſs directly ſedative.

This effect may be ſaid to take place from every degree of abſolute cold; and, when the heat of the body has upon any occaſion been preternaturally increaſed, every lower temperature may be uſeful in diminiſhing the activity of the ſyſtem; but it cannot diminiſh the natural vigour of the vital principle, till the cold applied is under 62 degrees; nor even then will it have this effect, unleſs the cold applied be of an intenſe degree, or be applied for ſome length of time to a large portion of the body.

2. It is equally manifeſt, that, in certain circum-

ſtances, cold proves a *ſtimulus* to the living body, and particularly to the ſanguiferous ſyſtem.

It is probable, that this effect takes place in every caſe in which the temperature applied produces a ſenſation of cold; and this, therefore, as depending entirely on the relative power of cold, will be in proportion to the change of temperature that takes place.

It appears to me probable, that every change of temperature from a higher to a lower degree, will prove more or leſs ſtimulant; excepting when the cold applied is ſo intenſe, as immediately to extinguiſh the vital principle in the part.

3. Beſide the ſedative and ſtimulant powers of cold, it is manifeſtly a powerful *aſtringent*, cauſing a contraction of the veſſels on the ſurface of the body, and thereby producing a paleneſs of the ſkin and a ſuppreſſion of perſpiration; and it ſeems to have ſimilar effects when applied to internal parts. It is likewiſe probable, that this conſtriction, as it takes place eſpecially in conſequence of the ſenſibility of the parts to which the cold is applied, will in ſome meaſure be communicated to other parts of the body; and that thereby the application of cold proves a *tonic* power with reſpect to the whole ſyſtem.

Theſe effects of tonic and aſtringent power ſeem to take place both from the abſolute and relative power of cold; and therefore every application of it which gives a ſenſation of cold, is, in its firſt effect, both aſtringent and ſtimulant, though the former may be often prevented from being either conſiderable or permanent when the latter immediately takes place.

XCI.

It will be obvious, that theſe ſeveral effects of cold cannot all take place at the ſame time, but may in ſucceſſion be variouſly combined. The ſtimulant power taking place obviates the effects, at leaſt the permanency of the effects, that might otherwiſe have ariſen from the ſedative power. That the ſame ſtimulant power prevents theſe from the aſtringent, I have ſaid above; but the ſtimulant and tonic powers of cold are commonly, perhaps always, conjoined.

XCII.

Theſe general effects of cold now pointed out are ſometimes ſalutary, frequently morbid; but it is the latter only I am to conſider here, and they ſeem to be chiefly the following.

1. A general inflammatory diſpoſition of the ſyſtem, which is commonly accompanied with Rheumatiſm, or other Phlegmaſiæ.

2. The ſame inflammatory diſpoſition accompanied with Catarrh.

3. A Gangrene of particular parts.

4. A palſy of a ſingle member.

5. A Fever, or Fever ſtrictly ſo called (viii.) which it often produces by its own power alone, but more commonly it is only an exciting cauſe of fever by concurring with the operation of human or marſh effluvia.

XCIII.

Cold is often applied to the human body without producing any of theſe morbid effects, and it is difficult to determine in what circumſtances it eſpecially operates in producing them. It appears to me, that the morbid effects of cold depend partly upon certain circumſtances of the cold itſelf, and partly on certain circumſtances of the perſon to whom it is applied.

XCIV.

The circumſtances of the cold applied, which ſeem to give it effect, are, 1. The intenſity or degree of the cold: 2. The length of time during which it is applied; 3. The degree of moiſture at the ſame time accompanying it; 4. Its being applied by a wind or current of air; 5. Its being a viciſſitude, or ſudden and conſiderable change of temperature, from heat to cold.

XCV.

The circumſtances of perſons rendering them more liable to be affected by cold, ſeem to be, 1. The weakneſs of the ſyſtem, and particularly the leſſened vigour of the circulation, occaſioned, by faſting, by evacuations, by fatigue, by a laſt night's debauch, by exceſs in venery, by long watching, by much ſtudy, by reſt immediately after great exerciſe, by ſleep, and by preceding diſeaſe. 2. The body, or its parts, being deprived of their accuſtomed coverings. 3. One part of the body being expoſed to cold, while the reſt is kept in its uſual or a greater warmth.

XCVI.

The power of theſe circumſtances (xcv.) is demonſtrated by the circumſtances enabling perſons to reſiſt cold. Theſe are, a certain vigour of conſtitution, exerciſe of the body, the preſence of active paſſions, and the uſe of cordials.

Beſide theſe, there are other circumſtances which, by a different operation, enable perſons to reſiſt cold acting as a ſenſation; ſuch as, paſſions engaging a cloſe attention to one object, the uſe of narcotics, and that ſtate of the body in which ſenſibility is greatly diminiſhed, as in maniacs. To all which is to be added, the power of habit with reſpect to thoſe parts of the body to which cold is more conſtantly applied, which both diminiſhes ſenſibility, and increaſes the power of the activity generating heat.

XCVII.

Beſide cold, there are other powers that ſeem to be remote cauſes of fever; ſuch, as fear, intemperance in drinking, exceſs in venery, and other circumſtances, which evidently weaken the ſyſtem. But whether any of theſe ſedative powers be alone the remote cauſe of fever, or if they only operate either as concurring with the operation of marſh or human effluvia, or as giving an opportunity to the operation of cold, are queſtions not to be poſitively anſwered: they may poſſibly of themſelves produce fever; but moſt frequently they operate as concurring in one or other of the ways above mentioned.

XCVIII.

Having now mentioned the chief of the remote cauſes of fevers, it may be further obſerved, that theſe will ariſe more or leſs readily, according as miaſmata and contagions are more or leſs prevailing or powerful, or as theſe are more or leſs favoured by the concurrence of cold and other ſedative powers.

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CHAP. V.

OF THE PROGNOSIS OF FEVERS.

XCIX.

AS fevers (by lx.) conſiſt of both morbid ad ſalutary motions and ſymptoms, the tendency of the diſeaſe to a happy or fatal iſſue, or the prognoſtic in fevers, has been eſtabliſhed by marking the prevalence of the morbid or of the ſalutary ſymptoms; and it might be properly ſo eſtabliſhed, if we could certainly diſtinguiſh between the one and the other of theſe kinds of ſymptoms: but the operation of the reaction, or ſalutary efforts of nature in curing fevers, is ſtill involved in ſo much obſcurity, that I cannot explain the ſeveral ſymptoms of it ſo clearly as to apply them to the eſtabliſhing prognoſtics; and this, I think, may be done better, by marking the morbid ſymptoms which ſhew the tendency to death in fevers.

C.

This plan of the prognoſtics in fevers muſt proceed upon our knowledge of the cauſes of death in general, and in fevers more particularly.

The cauſes of death, in general, are either direct or indirect.

The firſt are thoſe which directly attack and deſtroy the vital principle, as lodged in the nervous ſyſtem; or deſtroy the organization of the brain immediately neceſſary to the action of that principle.

The ſecond, or the indirect cauſes of death, are thoſe which interrupt ſuch functions as are neceſſary to the circulation of the blood, and thereby neceſſary to the due continuance and ſupport of the vital principle.

CI.

Of theſe general cauſes, thoſe which operate more particularly in fevers ſeem to be, *firſt*, The *violence of reaction;* which either, by repeated violent excitements, deſtroys the vital power itſelf; or, by its violence, deſtroys the organization of the brain neceſſary to the action of that power; or, by the ſame violence, deſtroys the organization of the parts more immediately neceſſary to the circulation of the blood.

Secondly, The cauſe of death in fevers may be a *poiſon*, that is, a power capable of deſtroying the vital principle; and this poiſon may be either the miaſma or contagion which was the remote cauſe of the fever, or it may be a putrid matter generated in the courſe of the fever. In both caſes, the operation of ſuch a power appears either as acting chiefly on the nervous ſyſtem, inducing the ſymptoms of debility; or as acting upon the fluids of the body, inducing a putreſcent ſtate in them.

CII.

From all this it appears, that the ſymptoms ſhowing the tendency to death in fevers, may be diſcovered by their being either the ſymptoms

Of *violent reaction;*

Of *great debility;*

Or, of *a ſtrong tendency to putrefaction in the fluids.*

And, upon this ſuppoſition, I proceed now to mark thoſe ſymptoms more particularly*.

CIII.

The ſymptoms which denote the *violence of reaction*, are, 1. The increaſed force, hardneſs, and frequency, of the pulſe. 2. The increaſed heat of the body. 3. The ſymptoms which are the marks of a general inflammatory diatheſis, and more eſpecially of a particular determination to the brain, lungs, or other important viſcera. 4. The ſymptoms which are the marks of the cauſe of violent reaction; that is, of a ſtrong ſtimulus applied, or of a ſtrong ſpaſm formed, the latter appearing in a conſiderable ſuppreſſion of the excretions.

CIV.

The ſymptoms which denote *a great degree of debility*, are,

In the ANIMAL FUNCTIONS: I. The weakneſs of the voluntary motions; II. The irregularity of the voluntary motions, depending on their debility; III. The weakneſs of ſenſation; IV. The weakneſs and irregularity of the intellectual operations.

In the VITAL FUNCTIONS; I. The weakneſs of the pulſe; II. The coldneſs or ſhrinking of the extremities; III. The tendency to a *deliquium animi* in an erect poſture; IV. The weakneſs of reſpiration.

In the NATURAL FUNCTIONS: I. The weakneſs of the ſtomach, as appearing in anorexia, nauſea, and vomiting; II. Involuntary excretions, depending upon a palſy of the ſphincters; III. Difficult deglutition, depending upon a palſy of the muſcles of the fauces.

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* No part of medical knowledge is ſo ſerviceable in the practice of phyſic as prognoſtics. It wonderfully aſſiſts in the cure of all diſeaſes, but more eſpecially fevers, and other acute diſorders. The young reader, therefore, ought to be particularly attentive to this part of the work. What the author advances is very different from what has gone before. We have here no hypotheſes or fancies, no ſuppoſitions unſupported by facts; but, on the contrary, truths deduced from a careful obſervation of nature, and arranged in a diſtinct and perſpicuous manner.

CV.

Laſtly, The ſymptoms denoting *the putreſcent ſtate of the fluids*, are,

I. With reſpect to the ſtomach; the loathing of animal food, nauſea and vomiting, great thirſt, and a deſire of acids.

II. With reſpect to the fluids; 1. The blood drawn out of the veins not coagulating as uſual; 2. Hemorrhagy from different parts, without marks of increaſed impetus; 3. Effuſions under the ſkin or cuticle, forming petechiæ, maculæ, and vibices; 4. Effuſions of a yellow ſerum under the cuticle.

III. With reſpect to the ſtate of the excretions; fetid breath, frequent looſe and fetid ſtools, high-coloured turbid urine, fetid ſweats, and the fetor and livid colour of bliſtered places.

IV. The cadaverous ſmell of the whole body.

CVI.

Theſe ſeveral ſymptoms have very often, each of them ſingly, a ſhare in determining the prognoſtic: but more eſpecially by their concurrence and combination with one another: particularly thoſe of debility with thoſe of putreſcency*.

CVII.

On the ſubject of the prognoſtic, it is proper to obſerve, that many phyſicians have been of opinion there is ſomething in the nature of fevers which generally determines them to be of a certain duration; and therefore that their terminations, whether ſalutary or fatal, happen

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* It may not be amiſs to explain this circumſtance a little more fully. Coldneſs of the extremities may alone be ſufficient to induce the practitioner to think the iſſue of the diſeaſe fatal; yet if this ſymptom be combined with a weakneſs and irregularity of the intellectual operations, and theſe two accompanied with involuntary, looſe, and fœtid evacuations of ſtool, and urine, death may be pronounced to be at no great diſtance.

happen at certain periods of the diſeaſe, rather than at others. Theſe periods are called the CRITICAL DAYS; carefully marked by Hippocrates and other ancient phyſicians, as well as by many moderns of the greateſt eminence in practice; whilſt at the ſame time many other moderns, of no inconſiderable authority, deny their taking place in the fevers of theſe northern regions which we inhabit.

CVIII.

I am of opinion that the doctrine of the ancients, and particularly that of Hippocrates, on this ſubject, was well founded; and that it is applicable to the fevers of our climate.

CIX.

I am of this opinion, *firſt*, Becauſe I obſerve that the animal œconomy, both from its own conſtitution, and from habits which are eaſily produced in it, is readily ſubjected to periodical movements. *Secondly*, Becauſe in the diſeaſes of the human body, I obſerve periodical movements to take place with great conſtancy and exactneſs; as in the caſe of intermittent fevers, and many other diſeaſes.

CX.

Theſe conſiderations render it probable, that exact periodical movements may take place in continued fevers; and I think there is evidence of ſuch movements actually taking place.

CXI.

The critical days, or thoſe on which we ſuppoſe the termination of continued fevers eſpecially to happen, are, the *third*, *fifth*, *ſeventh*, *ninth*, *eleventh*, *fourteenth*, *ſeventeenth*, and *twentieth*. We mark none beyond this laſt; becauſe, though fevers are ſometimes protracted beyond this period, it is, however, more rarely, ſo that there are not a ſufficient number of obſervations to aſcertain the courſe of them; and further, becauſe it is probable that, in fevers long protracted,

tracted, the movements become leſs exact and regular, and therefore leſs eaſily obſerved.

CXII.

That the days now mentioned are the critical days, ſeems to be proved by the particular facts which are found in the writings of Hippocrates. From theſe facts, as collected from the ſeveral writings of that author by *M. De Haen*, it appears, that of one hundred and ſixty-three inſtances of the termination of fevers, which happened on one or other of the firſt twenty days of the diſeaſe, there are one hundred and ſeven, or more than two-thirds of the whole number, which happened on one or other of the eight days above mentioned; that none happened on the ſecond or thirteenth day; and upon the eighth, tenth, twelfth, fifteenth, ſixteenth, eighteenth, and nineteenth, there are but eighteen inſtances of termination, or one ninth of the whole.

CXIII.

As the terminations which happen on the ſeven days laſt mentioned, are, upon the whole, few, and, upon any one of them, fewer than thoſe which happen on any of our ſuppoſed critical days; ſo there are therefore nine days which may be called NON-CRITICAL; while, on the other hand, the many terminations which happened on the ſeventh, fourteenth, and twentieth days, afford a proof both of critical days in general, and that theſe are the chief of them. Hereafter I ſhall mention an analogy that renders the power of the other critical days ſufficiently probable.

CXIV.

It appears further, that as, of the terminations which were final and ſalutary, not a tenth part happened on the non-critical days; and of the terminations which were final and fatal, though the greater number happened on the critical days, yet above a third of them happened on the non-critical; ſo it would appear, that the tendency of the animal œconomy is to obſerve the critical days, and that it is by the operation of ſome violent and irregular cauſe that the courſe of things is ſometimes turned to the non-critical.

CXV.

What has been ſaid, gives ſufficient ground for preſuming, that it is the general tendency of the animal œconomy to determine the periodical movements in fevers to be chiefly on the critical days. At the ſame time, we muſt acknowledge it to be a general tendency only; and that in patricular caſes, many circumſtances may occur to diſturb the regular courſe of it. Thus, though the chief and more remarkable exacerbations in continued fevers happen on the critical days, there are truly exacerbations happening every day; and theſe, from certain cauſes, may become conſiderable and critical. Further, though intermittent fevers are certainly very ſtrongly determined to obſerve a tertian or quartan period, we know there are certain circumſtances which prevent them from obſerving theſe periods exactly, and which render them either anticipating or poſtponing ſo much, that the days of paroxyſms come to be quite changed; and it is allowable to ſuppoſe, that the like may happen with reſpect to the exacerbations of continued fevers, ſo as thereby to diſturb the regular appearance of critical days.

A particular inſtance of this occurs with reſpect to the ſixth day of fevers. In the writings of Hippocrates, there are many inſtances of terminations happening on the ſixth day; but it is not therefore reckoned among the critical days; for of the terminations happening on that day, there is not one which proves finally of a ſalutary kind; the greater number are fatal, and all the reſt are imperfect, and followed with a relapſe. All this ſhows, that ſome violent cauſe had, in theſe caſes, produced a deviation from the ordinary courſe of nature; that the terminations on the ſixth day are nothing more than anticipations of the ſeventh, and therefore a proof of the power of this laſt*.

CXVI.

The doctrine of critical days has been much embarraſſed by ſome diſſonant accounts of it, which appear in the writings imputed to Hippocrates†. But this may be juſtly accounted for from theſe writings being truly the works of different perſons, and from the moſt genuine of them having ſuffered many corruptions; ſo that, in ſhort, every thing which is inconſiſtent with the facts above laid down, may be aſcribed to one or other of theſe cauſes.

This,

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[*] This idea of the general tendency of nature to preſerve a regularity in the animal motions, is a moſt ingenious explanation of the apparent irregularities in the termination of fevers. It is perhaps one of the beſt defences of the critical days that ever appeared, becauſe it explains, in a moſt ſatisfactory manner, why the termination on the ſixth day ſhould not be ſalutary. The violence of the diſturbing cauſe excites motions which nature has not the power of withſtanding, and which are either the immediate cauſes of death, or induce ſuch morbid affections as prove ultimately fatal.

[†] To enter into a critical inquiry, whether the works handed down to us as the writings of Hippocrates are really the productions of that great man, or compilations from various phyſicians, would be foreign to the deſign of this work. The ſtyle of them is, if I may be allowed the expreſſion, homogeneous; the ſame provincial dialect prevails through the whole of them; and they are extremely remarkable, eſpecially ſuch of them as reſpect the critical days, for being rather a detail of obſerved facts, than reaſonings brought to ſupport a favourite hypotheſis. It is probable indeed that Hippocates, who has got the credit of the work, might have been indebted to many of his contemporaries for ſome of the materials that compoſe them; but the ſameneſs of the ſtyle is a ſtrong preſumptive argument that they are the production of one perſon, or at leaſt of their having been reduced to their preſent form by one and the ſame hand. Dr. Cullen's other ſuppoſition, of their having ſuffered many, and, he might have added, material corruptions ſeems highly probable.

CXVII.

This, further, has eſpecially diſturbed the doctrine of critical days, that Hippocrates himſelf attempted, perhaps too haſtily, to eſtabliſh general rules, and to bring the doctrine to a general theory, drawn from Pythagorean opinions concerning the power of numbers. It is this which ſeems to have produced the idea of odd days, and of a quaternary and ſeptenary period; doctrines which appear ſo often in the writings of Hippocrates. Theſe, however, are inconſiſtent with the facts above laid down; and indeed, as Aſclepiades and Celſus have obſerved, are inconſiſtent with one another.

CXVIII.

Upon the whole, therefore, it is apprehended, that the critical days above aſſigned, are truly the critical days of Hippocrates, and may be conſiſtently explained in the following manner.

CXIX.

From the univerſality of tertian or quartan periods in intermitent fevers, we cannot doubt of there being, in the animal œconomy, a tendency to obſerve ſuch periods*; and the critical days above mentioned are conſiſtent with this tendency of the œconomy, as all of them mark either tertian or quartan periods. Theſe periods, however, are not promiſcuouſly mixed, but occupy conſtantly their ſeveral portions in the progreſs of the diſeaſe; ſo that, from the beginning to the eleventh day, a tertian period takes place, and, from the eleventh to the twentieth, and perhaps longer, a quartan period is as ſteadily obſerved.

CXX.

What determines the periods to be changed about the eleventh day, we have not clearly perceived; but the fact is certain: for there is no inſtance of any termination on the thirteenth, that is, the tertian period next following the eleventh; whereas, upon the fourteenth,

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* The author might have added, or periods compounded of theſe two.

teenth, ſeventeenth, and twentieth, which mark quartan periods, there are forty-three inſtances of terminations, and ſix only on all the intermediate days between theſe.

This prevalence of a quartan period leaves no room for doubting that the twentieth, and not the twenty-firſt, is the critical day marked by Hippocrates, though the laſt is mentioned as ſuch in the common edition of the Aphoriſms, taken from an erroneous manuſcript, which Celſus alſo ſeems to have copied.

CXXI.

A conſiſtency with the general tendency of the ſyſtem, renders the ſeries of critical days we have mentioned, probably the true one; and the only remaining difficulty in finding what we have delivered to be the ſame with the genuine doctrine of Hippocrates, is the frequent mention of the fourth as a critical day.

It is true there are more inſtances of terminations happening on this day, than on ſome of thoſe days we have aſſerted to be truly critical: but its inconſiſtency with the more general tendency, and ſome other conſiderations, lead us to deny its being naturally a critical day; and to think, that the inſtances of terminations, which have really occurred on the fourth day, are to be reckoned among the other irregularities that happen in this matter.

CXXII.

I have thus endeavoured to ſupport the doctrine of critical days, chiefly upon the particular facts to be found in the writings of Hippocrates: And although I might alſo produce many other teſtimonies of both ancient and modern times; yet it muſt be owned, that ſome of theſe teſtimonies may be ſuſpected to have ariſen rather from a veneration of Hippocrates, than from accurate obſervation.

CXXIII.

With reſpect to the opinions of many moderns who deny the prevalence of critical days, they are to be little regarded, for the obſervation of the courſe of continued fevers is known to be difficult and fallacious; and therefore the regularity of that courſe may have often eſcaped inattentive and prejudiced obſervers.

CXXIV.

Our own obſervations amount to this, That fevers with moderate ſymptoms, generally the caſes of the ſynocha, frequently terminate in nine days, or ſooner, and very conſtantly upon one or other of the critical days which fall within that period: but it is very rare, in this climate, that caſes of either the typhus or ſynochus terminate before the eleventh day; and, when they do terminate on this day, it is for the moſt part fatally. When they are protracted beyond this time, I have very conſtantly found, that their terminations were upon the fourteenth, ſeventeenth, or twentieth day.

In ſuch caſes, the ſalutary terminations are ſeldom attended with any conſiderable evacuation. A ſweating frequently appears, but is ſeldom conſiderable; and I have hardly ever obſerved critical and deciſive terminations attended with vomiting, evacuations by ſtool, or remarkable changes in the urine. The ſolution of the diſeaſe is chiefly to be diſcerned from ſome return of ſleep and appetite, the ceaſing of delirium, and an abatement of the frequency of the pulſe. By theſe ſymptoms we can often mark a criſis of the diſeaſe: but it ſeldom happens ſuddenly and entirely; and it is moſt commonly from ſome favourable ſymptoms occurring upon one critical day, that we can announce a more entire ſolution upon the next following.

Upon the whole, I am perſuaded, that, if obſervations ſhall be made with attention, and without prejudice, I ſhall be allowed to conclude with the words of the learned and ſagacious Gaubius, "Fallor, ni ſua "conſtiterit HIPPOCRATI auctoritas, GALENO fides, "NATURÆ virtus et ordo."

CHAP. VI.

OF THE METHOD OF CURE IN FEVERS.

SECT. I.

OF THE CURE OF CONTINUED FEVERS.

CXXV.

AS it is allowed, that, in every fever which has its full courſe, there is an effort of nature of a ſalutary tendency, it might be ſuppoſed that the cure of fevers ſhould be left to the operations of nature, or that our art ſhould be only directed to ſupport and regulate theſe operations, and that we ſhould form our indications accordingly. This plan, however, I cannot adopt, becauſe the operations of nature are very precarious, and not ſo well underſtood as to enable us to regulate them properly. It appears to me, that truſting to theſe operations has often given occaſion to a negligent and inert practice; and there is reaſon to believe, that an attention to the operations of nature may be often ſuperſeded by art.

CXXVI.

The plan which to me appears to be moſt ſuitable, is that which forms the indications of cure upon the view of obviating the tendency to death; while, at the ſame time, the means of executing theſe indications are directed by a proper attention to the proximate cauſe of fevers.

Upon this plan, in conſequence of what has been laid down above on the ſubject of the prognoſtic, we form three general indications in the cure of continued fevers; and the one or other of theſe is to be employed according as the circumſtances of the fever (cii.) ſhall direct.

The firſt therefore is, *To moderate the violence of reaction.*

The ſecond is, *To remove the cauſes or obviate the effects of debility.* And,

The third is, *To obviate or correct the tendency of the fluids to putrefaction.*

CXXVII.

The firſt indication may be anſwered, that is, the violence of reaction may be moderated.

1. By all thoſe means which diminiſh the action of the heart and arteries;

2. By thoſe means which take off the ſpaſm of the extreme veſſels, which we ſuppoſe to be the chief cauſe of violent reaction.

CXXVIII.

The action of the heart and arteries may be diminiſhed,

1. By avoiding or moderating thoſe irritations, which, in one degree or other, are almoſt conſtantly applied to the body.

2. By the uſe of certain ſedative powers.

3. By diminiſhing the tenſion and tone of the arterial ſyſtem.

CXXIX.

The irritations (cxxviii. 1.) almoſt conſtantly applied, are the impreſſions made upon our ſenſes; the exerciſe of the body and mind; and the taking in of aliments. The avoiding theſe as much as poſſible, or the moderating their force, conſtitute what is rightly called the ANTIPHLOGISTIC REGIMEN, proper to be employed in almoſt every continued fever.

CXXX.

The conduct of the regimen is to be directed by the following rules and conſiderations.

1. Impreſſions on the external ſenſes, as being ſtimulant to the ſyſtem, and a chief ſupport of its activity, ſhould be avoided as much as poſſible; thoſe eſpecially of more conſtant application, thoſe of a ſtronger kind, and thoſe which give pain and uneaſineſs.

No impreſſion is to be more carefully guarded againſt than that of external heat; while, at the ſame time, every other means of increaſing the heat of the body is to be ſhunned. Both theſe precautions are to be obſerved as ſoon as a hot ſtage is fully formed, and to be attended to during its continuance; excepting in certain caſes, where a determination to ſweating is neceſſary, or where the ſtimulant effects of heat may be compenſated by circumſtances which determine it to produce a relaxation and revulſion.

2. All motion of the body is to be avoided, eſpecially that which requires the exerciſe of its own muſcles; and that poſture of the body is to be choſen which employs the feweſt muſcles, and which keeps none of them long in a ſtate of contraction. Speaking, as it accelerates reſpiration, is particularly to be refrained from.

3. The exerciſe of the mind alſo is a ſtimulus to the body; ſo that all impreſſions which lead to thought, and thoſe eſpecially which may excite emotion or paſſion, are to be carefully ſhunned.

With reſpect to avoiding impreſſions of all kinds, an exception is to be made in the caſe of a delirium coming on, when the preſenting of accuſtomed objects may have the effect of interrupting and diverting the irregular train of ideas then ariſing in the mind.

4. The preſence of recent aliment in the ſtomach proves always a ſtimulus to the ſyſtem, and ought therefore to be as moderate as poſſible. A total abſtinence for ſome time may be of ſervice; but as this cannot be long continued with ſafety, we muſt avoid the ſtimulus of aliment, by chooſing that kind which

gives the leaſt[*]. We ſuppoſe that alimentary matters are more ſtimulant according as they are more alkaleſcent; and this leads to avoid all animal, and to uſe vegetable food only.

As our drink alſo may prove ſtimulant, ſo all aromatic and ſpiritous liquors are to be avoided; and, in anſwering the preſent indication, all fermented liquors, excepting thoſe of the loweſt quality, are to be abſtained from[†].

CXXXI.

Beſide theſe ſtimulant powers more conſtantly applied, there are others which, although occaſionally only, yet, as commonly accompanying fevers, muſt be attended to and removed[‡].

One is, the ſenſe of thirſt, which, as a powerful ſtimulus, ought always, in one way or other, to be removed[§].

Another ſtimulus frequently ariſes from crudities, or corrupted humours, in the ſtomach; and it is to be removed by vomiting, by dilution, or by the uſe of acids[‖].

A third

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[*] In addition to theſe directions it may be mentioned that, if the patient have a deſire for food, which is ſeldom the caſe, he ought to make very ſparing and frequent meals. Much food taken at once, proves a greater ſtimulus than the ſame quantity taken at ſeveral different times; eſpecially if ſufficient quantities of diluting mucilaginous drink, ſuch as lintſeed tea, barley-water, water-gruel, &c. be taken along with it.

[†] Thin liquors are the beſt in caſes of this kind: of theſe we may either uſe water alone, or weak lintſeed tea, thin barley-water, toaſt and water, whey, currant-jelly diſſolved in water, with a variety of ſuch mucilaginous aceſcent drinks. They ought to be taken in ſmall quantities, and often.

[‡] This paſſage might have been more clearly expreſſed thus: beſides the ſtimulant powers more conſtantly applied, others, only occaſionally accompanying fevers, muſt be attended to and removed.

[§] The drinks mentioned in the former note are beſt adapted to this purpoſe.

[‖] The vegetable acids are the moſt ſuitable, eſpecially the juices

A third ſtimulus often ariſes from the preternatural retention of fæces in the inteſtines; and ought to be removed by frequent laxative glyſters*.

A fourth ſtimulus to be conſtantly ſuſpected in fevers, is a general acrimony of the fluids, as produced by the increaſe of motion and heat, joined with an interruption of the excretions. This acrimony is to be obviated or removed by the taking in of large quantities of mild antiſeptic liquors†.

CXXXII.

The avoiding of irritation in all theſe particulars, (cxxx, and cxxxi.) conſtitutes the antiphlogiſtic regimen abſolutely neceſſary for moderating the violence of reaction; and, if I miſtake not, is proper in almoſt every circumſtance of continued fevers; becauſe the propriety and ſafety of employing ſtimulants is often uncertain; and becauſe ſeveral of thoſe above mentioned, beſide their ſtimulant powers, have other qualities by which they may be hurtful.

It appears to me, that the ſuppoſed utility of ſtimulants, in certain caſes of fever, has often ariſen from a miſtake

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of acid fruits, as the juices of oranges, lemons, currants or apples, diluted with water. In ſome caſes the mineral acids have been much extolled, eſpecially the nitrous, when united with ſpirit of wine. The ſpiritus ætheris nitroſi of the laſt London Pharmacopœia is uſed with ſucceſs in theſe caſes. It may be given in barley-water, to the quantity of twenty or twenty-five drops within the hour.

* The preference of clyſters to purging medicines is obvious.— The action even of the moſt gentle laxatives is always attended with ſome degree of ſtimulus, while clyſters, eſpecially the mild ones, ſeldom produce that effect. The beſt clyſter in theſe caſes, is half a pint of milk, with as much water, two ounces of oil, and one ounce of brown ſugar, or, what is better than ſugar, two ounces of manna.

† The chief of theſe are the acid fruits diluted with water; to which we may add the decoction of malt, of radix graminis, (the Triticum repens of Linne.) infuſions of ſage, mint, and other plants of that natural order which Linne calls Spirantia.

miſtake in having aſcribed to their ſtimulant what really depended upon their antiſpaſmodic power.

CXXXIII.

A ſecond head of the means (cxxviii 2.) for moderating the violence of reaction, comprehends certain ſedative powers, which may be employed to diminiſh the activity of the whole body, and particularly that of the ſanguiferous ſyſtem.

The *firſt* of theſe to be mentioned is the application of cold.

Heat is the chief ſupport of the activity of the animal ſyſtem; which is therefore provided in itſelf with a power of generating heat. But, at the ſame time, we obſerve, that this would go to exceſs, were it not conſtantly moderated by a cooler temperature in the ſurrounding atmoſphere. When, therefore, that power of the ſyſtem generating heat is increaſed, as is commonly the caſe in fevers, it is neceſſary not only to avoid all means of increaſing it further, but it ſeems proper alſo to apply air of a cooler temperature; or at leaſt to apply it more entirely and freely, than in a ſtate of health.

Some late experiments in the ſmall-pox, and in continued fevers, ſhow that the free admiſſion of cool air to the body is a powerful remedy in moderating the violence of reaction; but what is the mode of its operation, to what circumſtances of fever it is peculiarly adapted, or what limitations it requires, I ſhall not venture to determine, till more particularly inſtructed by further experience.

CXXXIV.

A *ſecond* ſedative power which may be employed in fevers, is that of certain medicines, known, in the writings on the Materia Medica, under the title of REFRIGERANTS.

The chief of theſe are acids of all kinds, when ſufficiently diluted; and they are, in ſeveral reſpects, remedies adapted to continued fevers. Thoſe eſpecially in uſe are, the Vitriolic and Vegetable; and, on many accounts, we prefer the latter*.

CXXXV.

Another ſet of refrigerants are, the Neutral Salts, formed of the vitriolic, nitrous or vegetable acids; with alkalines, either fixed or volatile. All theſe neutrals, while they are diſſolving in water, generate cold; but as that cold ceaſes ſoon after the ſolution is finiſhed, and as the ſalts are generally exhibited in a diſſolved ſtate, their refrigerant power in the animal body does not at all depend upon their power of generating cold with water. The Neutral chiefly employed as a refrigerant, is Nitre; but all the others, compounded as above mentioned, partake more or leſs of the ſame quality†.

CXXXVI.

Beſides theſe neutrals, ſome metallic ſalts alſo have been employed as refrigerants in fevers; and particularly the Sugar of Lead. But the refrigerant powers of this are not well aſcertained; and its deleterious qualities are too well known to admit of its being freely uſed.

CXXXVII.

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* The vitriolic acid is harſh to the taſte, and frequently acts as an aſtringent; it is therefore not always inadmiſſible. The beſt vegetable acids for this purpoſe, are as was ſaid above, the natural juices of acid fruits. The acid of tartar is the beſt refrigerant we have: there is an excellent formula of it in the Swediſh Pharmacopœia, under the title Pulvis refrigerans, which conſiſts chiefly of the eſſential ſalt of tartar and ſugar. The doſe of the acid of tartar, prepared according to Scheele's preſcription, is half a ſcruple, or fifteen grains, in the hour, largely diluted with a mucilaginous liquor.

† Nitre has been long uſed as a refrigerant. In too large quantities, however, it has often done harm. It may therefore be neceſſary to guard the young practitioner againſt giving nitre in a larger quantity than two drachms in the twenty-four hours, nor in doſes of above ten grains, well diluted with mucilaginous drinks.

CXXXVII.

Under the *third* general head (cxxviii, 3.) of the means to be employed for moderating the violence of reaction, are comprehended the ſeveral means of diminiſhing the tenſion, tone, and activity, of the ſanguiferous ſyſtem. As the activity of this ſyſtem depends, in a great meaſure, upon the tone, and this again upon the tenſion of the veſſels, given to them by the quantity of fluids they contain, it is evident, that the diminution of the quantity of theſe, muſt diminiſh the activity of the ſanguiferous ſyſtem.

CXXXVIII.

The quantity of fluids contained in the ſanguiferous ſyſtem, may be diminiſhed moſt conveniently by the evacuations of blood-letting and purging.

CXXXIX.

Nothing is more evident, than that blood-letting is one of the moſt powerful means of diminiſhing the activity of the whole body, eſpecially of the ſanguiferous ſyſtem; and it muſt therefore be the moſt effectual means of moderating the violence of reaction in fevers. Taking this as a fact, I omit inquiring into its mode of operation, and ſhall only conſider in what circumſtances of fevers it may be moſt properly employed.

CXL.

When the violence of reaction, and its conſtant attendant, a phlogiſtic diatheſis, are ſufficiently manifeſt; when theſe conſtitute the principal part of the diſeaſe, and may be expected to continue throughout the whole of it, as in the caſe of *ſynocha*; then blood-letting is the principal remedy, and may be employed as far as the ſymptoms of the diſeaſe may ſeem to require, and the conſtitution of the patient will bear. It is, however, to be attended to, that a greater evacuation than is neceſſary, may occaſion a ſlower recovery, may render the perſon more liable to a relapſe, or may bring on other diſeaſes.

CXLI.

In the caſe of *ſynocha*, therefore, there is little doubt about the propriety of blood-letting: but there are other ſpecies of fever, as the *ſynochus*, in which a violent reaction and phlogiſtic diatheſis appear, and prevail during ſome part of the courſe of the diſeaſe; while, at the ſame time, theſe circumſtances do not conſtitute the principal part of the diſeaſe, nor are to be expected to continue during the whole courſe of it; and it is well known, that, in many caſes, the ſtate of violent reaction is to be ſucceeded, ſooner or later, by a ſtate of debility, from the exceſs of which the danger of the diſeaſe is chiefly to ariſe. It is, therefore, neceſſary, that, in many caſes, blood-letting ſhould be avoided; and even although, during the inflammatory ſtate of the diſeaſe, it may be proper, it will be neceſſary to take care that the evacuation be not ſo large as to increaſe the ſtate of debility which is to follow.

CXLII.

From all this it muſt appear, that the employing blood-letting, in certain fevers, requires much diſcernment and ſkill, and is to be governed by the conſideration of the following circumſtances:

1. The nature of the prevailing epidemic.
2. The nature of the remote cauſe.
3. The ſeaſon and climate in which the diſeaſe occurs.
4. The degree of phlogiſtic diatheſis preſent*.
5. The period of the diſeaſe.
6. The age, vigour, and plethoric ſtate of the patient.
7. The patient's former diſeaſes and habits of blood-letting.
8. The appearance of the blood drawn out.

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* The phlogiſtic diatheſis is explained in art. 247.

9. The effects of the blood-letting that may have been already practiſed.

CXLIII.

When, after the conſideration of theſe circumſtances, blood-letting is determined to be neceſſary, it ſhould be obſerved, that it is more effectual, according as the blood is more ſuddenly drawn off, and as the body is at the ſame time more free from all irritation, and conſequently when in a poſture in which the feweſt muſcles are in action.

CXLIV.

Another evacuation whereby the quantity of fluids contained in the body can be conſiderably diminiſhed, is that of Purging.

CXLV.

If we conſider the quantity of fluids conſtantly preſent in the cavity of the inteſtines, and the quantity which may be drawn from the innumerable excretories that open into this cavity, it will be obvious, that a very great evacuation can be made by purging; and, if this be done by a ſtimulus applied to the inteſtines, without being at the ſame time communicated to the reſt of the body, it may, by emptying both the cavity of the inteſtines, and the arteries which furniſh the excretions poured into it, induce a conſiderable relaxation in the whole ſyſtem; and therefore, purging ſeems to be a remedy ſuited to moderate the violence of reaction in fevers.

CXLVI.

But it is to be obſerved, that, as the fluid drawn from the excretories opening into the inteſtines, is not all drawn immediately from the arteries, as a part of it is drawn from the mucous follicles only; and as what is even more immediately drawn from the arteries, is drawn off ſlowly; ſo the evacuation will not, in proportion to its quantity, occaſion ſuch a ſudden depletion of the red veſſels as blood-letting does; and therefore cannot operate ſo powerfully in taking off the phlogiſtic diatheſis of the ſyſtem.

CXLVII.

At the ſame time, as this evacuation may induce a conſiderable degree of debility; ſo, in thoſe caſes in which a dangerous ſtate of debility is likely to occur, purging is to be employed with a great deal of caution; and more eſpecially as the due meaſure of the evacuation is more difficult to be applied than in the caſe of blood-letting.

CXLVIII.

As we ſhall preſently have occaſion to obſerve, that it is of great importance, in the cure of fevers, to reſtore the determination of the blood to the veſſels on the ſurface of the body; ſo purging, as in ſome meaſure taking off that determination, ſeems to be an evacuation not well adapted to the cure of fevers.

CXLIX.

If, notwithſtanding theſe doubts, (cxlvi, cxlvii, and cxlviii.) it ſhall be aſſerted, that purging, even from the exhibition of purgatives, has often been uſeful in fevers; I would beg leave to maintain, that this has not happened from a large evacuation; and, therefore, not by moderating the violence of reaction, excepting in the caſe of a more purely inflammatory fever, or of exanthemata of an inflammatory nature. In other caſes of fever, I have ſeen a large evacuation by purging, of miſchievous conſequence; and if, upon occaſion, a more moderate evacuation has appeared to be uſeful, it is apprehended to have been only by taking off the irritation of retained fæces, or by evacuating corrupted humours which happened to be preſent in the inteſtines; for both of which purpoſes, frequent laxatives may be properly employed*.

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* Purges ought to be very cautiouſly adminiſtered in fevers; and ſuch only are to be uſed as operate with the leaſt irritation. In fevers attended with local inflammation, we may be under no appre-

CL.

Another ſet of means (cxxvii. 2.) for moderating the violence of reaction in fevers, are thoſe ſuited to take off the ſpaſm of the extreme veſſels, which we believe to be the irritation that chiefly ſupports the reaction.

Though I have put here this indication of taking off the ſpaſm of the extreme veſſels, as ſubordinate to the general indication of moderating the violence of reaction; it is however to be obſerved here, that as fever univerſally conſiſts in an increaſed action of the heart, either in frequency or in force, which in either caſe is ſupported by a ſpaſm of the extreme veſſels, ſo the indication for removing this is a very general one, and applicable in almoſt every circumſtance of fever, or at leaſt with a few exceptions, to be taken notice of hereafter.

CLI.

For taking off the ſpaſm of the extreme veſſels, the means to be employed are either internal or external.

CLII.

The internal means (cli.) are

1. Thoſe which determine the force of the circulation to the extreme veſſels on the ſurface of the body, and by reſtoring the tone and activity of theſe veſſels, may overcome the ſpaſm on their extremities.

2. Thoſe medicines which have the power of taking

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henſion of danger even from the briſker purges, as Glauber's ſalt, given in the quantity of an ounce, or an ounce and an half; or three or four ounces of the infuſum ſennæ, with half an ounce of Glauber's ſalt, and a drachm or two of tincture of jalap; but in fevers where no topical inflammation appears, the purges, if neceſſary, muſt be of the mildeſt kind, ſuch as manna, caſſia, &c. and they muſt be given in ſmall and often repeated doſes. In moſt fevers the inteſtines may be ſufficiently evacuated by taking half an ounce of manna, and a ſcruple of cream of tartar, every hour till it operates, diluting plentifully at the ſame time with barley-water. The phoſphorated ſoda, lately introduced into practice by the ingenious Dr. Pearſon of London, is well calculated for theſe caſes. The doſe of it is an ounce or ten drachms in barley-water, or broth.

ing off ſpaſm in any part of the ſyſtem, and which are known under the title of ANTISPASMODICS.

CLIII.

Thoſe remedies which are fit to determine to the ſurface of the body, are,

1. DILUENTS.
2. NEUTRAL SALTS.
3. SUDORIFICS.
4. EMETICS.

CLIV.

Water enters, in a large proportion, into the compoſition of all the animal fluids, and a large quantity of it is always diffuſed through the whole of the common maſs. Indeed, in a ſound ſtate, the fluidity of the whole maſs depends upon the quantity of water preſent in it. Water, therefore, is the proper diluent of our maſs of blood; and other fluids are diluent only in proportion to the quantity of water they contain.

CLV.

Water may be ſaid to be the vehicle of the ſeveral matters which ought to be excerned: and in a healthy ſtate the fullneſs of the extreme veſſels, and the quantity of excretions, are nearly in proportion to the quantity of water preſent in the body. In fever, however, although the excretions are in ſome meaſure interrupted, they continue in ſuch quantity as to exhale the more fluid parts of the blood; and while a portion of them is at the ſame time neceſſarily retained in the larger veſſels, the ſmaller and the extreme veſſels, both from the deficiency of fluid, and their own contracted ſtate, are leſs filled, and therefore allowed to remain in that condition.

CLVI.

To remedy this contracted ſtate, nothing is more neceſſary than a large ſupply of water, or watery fluids, taken in by drinking or otherwiſe; for as any ſuperfluous quantity of water is forced off by the ſeveral excretories, ſuch a force applied, may be a means of dilating the extreme veſſels, and of overcoming the ſpaſm affecting their extremities.

CLVII.

Accordingly the throwing in of a large quantity of watery fluids has been, at all times, a remedy much employed in fevers; and in no inſtance more remarkably, than by the Spaniſh and Italian phyſicians, in the uſe of what they call the *Diæta aquea.*

CLVIII.

This practice conſiſts in taking away every other kind of aliment and drink, and in giving in divided portions every day, for ſeveral days together, ſix or eight pounds of plain water, generally cold, but ſometimes warm. All this, however is to be done only after the diſeaſe has continued for ſome time, and, at leaſt, for a week*.

CLIX.

A ſecond means (cliii. 2.) of determining to the ſurface of the body, is by the uſe of neutral ſalts. These, in a certain doſe taken into the ſtomach, produce, ſoon after, a ſenſe of heat upon the ſurface of the body; and, if the body be covered cloſe and kept warm, a ſweat is readily brought out. The ſame medicines taken during the cold ſtage of a fever, very often put an end to the cold ſtage, and bring on the hot; and they are alſo remarkable for ſtopping the vomiting which ſo frequently attends the cold ſtage of fevers. All this ſhows, that neutral ſalts have a power of determining the blood to the ſurface of the body, and may therefore be of uſe in taking off the ſpaſm which in fevers ſubſiſts there.

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* Simply as a diluent, water is undoubtedly the beſt drink that can be uſed, but, by adding a ſmall quantity of mucilage to it, two intentions are anſwered at the ſame time, viz. diluting and overcoming the acrimony; hence the propriety of barley-water, water-gruel, lintſeed-tea, all made extremely weak; of very ſlight decoctions of malt, of bread cruſts, or even the gelatinous parts of young animals, as calf's feet, or the more ſolid hartſhorn ſhavings, &c. Theſe animal ſubſtances muſt however, be uſed in great moderation, and only in thoſe caſes where the patient requires nouriſhment. When this watery regimen is carried to a great length, the patient turns anaſarcous; but this effect may be prevented by ſome of the neutral ſalts, of which the Kali acetatum of the London Pharmacopœia is moſt preferable, on account of its diuretic quality. The doſe of it may be carried as far as half an ounce or ſix drachms in the day. The ſame intention may alſo be anſwered by eating water-creſſes, radiſhes, if in ſeaſon, or a little of the outer rind of turnips; all of which are diuretics.

CLX.

The neutral moſt commonly employed in fevers, is that formed of an alkali with the native acid of vegetables[*], but all the other neutrals have more or leſs of the ſame virtue; and perhaps ſome of them, particularly the ammoniacal ſalts, poſſeſs it in a ſtronger degree[†].

CLXI.

As cold water taken into the ſtomach, often ſhows the ſame diaphoretic effects with the neutral ſalts, it is probable that the effect of the latter depends upon their refrigerant powers mentioned above, (cxxxiv.) What is the effect of the neutral ſalts, given when they are forming and in a ſtate of effervеſcence? It is probable that this circumſtance may increaſe the refrigerant power of theſe ſalts, and may introduce into the body a quantity of fixed air; but for theſe purpoſes it would ſeem proper to contrive that the whole of the efferveſcence ſhould take place in the ſtomach*.

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[*] The following is the uſual doſe of it every three or four hours:

℞. Sal. Abſinth. ℈i.
Succ Limon. ℥ſs. vel. q. ſ. ad. ſaturationem;
Adde Aq. Fontanæ ℥iſs.
Syrup. commun. ʒii.
M. f. hauſt.

[†] The form and doſe of this is the ſame with the foregoing, only uſing the volatile alkali inſtead of the fixed. The aqua ammonia acetata of the London Pharmacopœia is one of the ammoniæal ſalts, and may be given in doſes of two drachms every four hours, diluted with an ounce and a half of water.

CLXII.

A third means (cliii. 3.) of determining to the ſurface of the body, and taking off the ſpaſm ſubſiſting there, is by the uſe of ſudorific medicines, and of ſweating.

CLXIII.

The propriety of this remedy has been much diſputed; and ſpecious arguments may be adduced both for and againſt this practice.

In favour of the practice it may be ſaid,

1. That, in healthy perſons, in every caſe of increaſed action of the heart and arteries a ſweating takes place, and is ſeemingly the means of preventing the bad effects of ſuch increaſed action.

2. That, in fevers, their moſt uſual ſolution and termination is by ſpontaneous ſweating.

3. That, even when excited by art, it has been found manifeſtly uſeful, at certain periods, and in certain ſpecies of fever.

CLXIV.

Upon the other hand, it may be urged againſt the practice of ſweating,

1. That as in fevers a ſpontaneous ſweating does not immediately come on, ſo there muſt be in theſe ſome circumſtances different from thoſe in the ſtate of health, and which may therefore render it doubtful whether the ſweating can be ſafely excited by art.

2. That, in many caſes, the practice has been attended with bad conſequences. The means commonly employed have a tendency to produce an inflammatory

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* It is certainly extremely uſeful in ſuppreſſing vomitings in fevers. The method of producing the efferveſcence in the ſtomach is as follows: Let the patient take the acid firſt, diluted with a ſufficient quantity of water, and immediately after let him ſwallow the alkali, alſo diluted. The proportion of the alkali to the acid muſt be learned from chemiſtry. If the mild fixed alkali is good, it will ſaturate about twelve times its weight of lemon juice.

ry diatheſis; which, if not taken off by the ſweat following their uſe, muſt be increaſed with much danger. Thus, ſweating employed to prevent the acceſſions of intermitting fevers, has often changed them into a continued form, which is always dangerous.

3. The utility of the practice is further doubtful, becauſe ſweating, when it happens, does not always give a final determination as muſt be manifeſt in the caſe of intermittents, as well as in many continued fevers, which are ſometimes in the beginning attended with ſweatings that do not prove final; and, on the contrary, whether ſpontaneous, or excited by art, ſeem often to aggravate the diſeaſe.

CLXV.

From theſe conſiderations, it is extremely doubtful if the practice of ſweating can be admitted very generally; but, at the ſame time, it is alſo doubtful, if the failure of the practice, or the miſchiefs ſaid to have ariſen from it, have not been owing to the improper conduct of the practitioner.

With reſpect to this laſt, it is almoſt agreed among phyſicians,

1. That ſweating has been generally hurtful when excited by ſtimulant, heating, and inflammatory medicines.

2. That it has been hurtful when excited by much external heat, and continued with a great increaſe of the heat of the body.

3. That it is always hurtful when it does not ſoon relieve, but rather increaſes, the frequency and hardneſs of the pulſe, the anxiety and difficulty of breathing, the headach, and delirium.

4. That it is always hurtful if it be urged when the ſweat is not fluid, and when it is partial, and on the ſuperior parts of the body only.

CLXVI.

In theſe caſes, it is probable, that either an inflammatory diatheſis is produced, which increaſes the ſpaſm on the extreme veſſels; or that, from other cauſes, the ſpaſm is too much fixed to yield eaſily to the increaſed action of the heart and arteries; and, upon either ſuppoſition, it muſt be obvious, that urging the ſweat, as ready to produce a hurtful determination to ſome of the internal parts, may be attended with very great danger.

CLXVII.

Though the doubts ſtarted (clxiv.) are to be attended to; and although the practices (clxv.) having been found hurtful, are therefote to be rejected; it ſtill remains true,

1. That ſweating has certainly been often uſeful in preventing the acceſſion of fevers, when the times of this have been certainly foreſeen, and a proper conduct employed.

2. That, even after fevers have in ſome meaſure come on, ſweating, when properly employed, either at the very beginning of the diſeaſe, or during its approach and gradual formation, has often prevented their further progreſs.

3. That even after pyrexiæ have continued for ſome time, ſweating has been ſucceſsfully employed in curing them, as particularly in the caſe of rheumatiſm.

4. That certain fevers, produced by a powerful ſedative contagion, have been generally treated, ſo far as we yet know, moſt ſucceſsfully by ſweating.

CLXVIII.

Theſe inſtances (clxvii.) are in favour of ſweating, but give no general rule; and it muſt be left to further experience to determine how far any general rule can be eſtabliſhed in this matter. In the mean time, if the practice of ſweating is to be attempted, we can venture to lay down the following rules for the conduct of it.

1. That it ſhould be excited without the uſe of ſtimulant inflammatory medicines.

2. That it ſhould be excited with as little external heat, and with as little increaſe of the heat of the body, as poſſible.

3. That, when excited, it ſhould be continued for a due length of time, not leſs than twelve hours, and ſometimes for twenty-four or forty-eight hours; always, however, providing that it proceeds without the circumſtances mentioned (clxv. 3. 4.)

4. That for ſome part of the time, and as long as the perſon can eaſily bear, it ſhould be carried on without admitting of ſleep*.

5. That it ſhould be rendered univerſal over the whole body; and, therefore, particularly, that care be taken to bring the ſweating to the lower extremities.

6. That the practice ſhould be rendered ſafer by moderate purging, excited at the ſame time.

7. That it ſhould not be ſuddenly checked by cold any how applied to the body.

CLXIX.

When attention is to be given to theſe rules, the ſweating may be excited, 1. By warm bathing, or a fomentation of the lower extremities. 2. By frequent draughts of tepid liquors chiefly water, rendered more grateful by the addition of a light aromatic†, or more powerful by that of a ſmall quantity of wine. 3. By giving ſome doſes of neutral ſalts‡. 4. Moſt effectually,

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* This direction is not always abſolutely neceſſary.

† The light aromatics here mentioned are ſage, mint, balm, &c. For the purpoſe of ſweating, white wines anſwer beſt, eſpecially the thin freſh wines; as alſo Rheniſh wines, particularly Hock. They muſt be taken warm and plentifully diluted. Wine whey is alſo a very powerful ſudorific, as are alſo wheys made with vinegar, cream of tartar, the juices of acid fruits, or with dulcified ſpirit of nitre.

‡ Neutral ſalts may be given in the quantity of two ſcruples or a drachm: but the patient muſt nevertheleſs drink large quantities of

ally, and perhaps moſt ſafely, by a large doſe of opiate, joined with a portion of neutral ſalts, and of an emetic*.

In what caſes may cold water, thrown into the ſtomach in large quantities, be employed to excite ſweating? See CELSUS, Lib. III. chap. vii—ix.

CLXX.

The fourth means (cliii. 1.) of determining to the ſurface of the body, and thereby taking off the ſpaſm affecting the extreme veſſels, is by the uſe of emetics.

CLXXI.

Emetics, and particularly antimonial emetics, have been employed in the cure of fevers ever ſince the introduction of chemical medicines: but, for a long time, they were employed by chemiſts and chemical practitioners only; and although of late the uſe of them has become

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warm water. The tartarus tartariſatus is the neutral moſt frequently uſed for producing ſweats; its doſe is generally ℈i. but it may be increaſed to two drachms.

* This is the well known Dover's powder, now called in the London Pharmacopœia, pulvis ipecacuanhæ compoſitus. It conſiſts of 8 parts of neutral ſalt, one of opium, and one of ipecacuanha; ſo that 10 grains of it are an ordinary doſe: But it has been given to the quantity of a ſcruple without any bad conſequences, and that doſe repeated every two or three hours, till the effect was produced. In general, however, doſes of 12 or 15 grains are the moſt uſual, and are found by experience to be the beſt. The Dover's powder, when given in large quantities, often nauſeates, and is rejected by vomit. In the Edinburgh Pharmacopœia, the Dover's powder conſiſts of 9 parts of neutral ſalt, one of opium, and one of ipecacuanha. The doſe of this, therefore, will be nearly the ſame as the doſe of the former; eleven grains of Edinburgh Dover's powder being equivalent to ten of the London. In adminiſtring this powder it may be neceſſary to obſerve, that the patient ought to refrain from drinking for at leaſt an hour after taking it, becauſe it nauſeates more readily if much diluted in the ſtomach; and if the nauſea be ſo great as to produce vomiting, its effects as a ſudorific are conſiderably diminiſhed, when however, a ſweat is produced, thin diluting drinks may and ought to be plentifully given; for, in ſuch caſes, it is evident from the effect, that the medicine has paſſed out of the ſtomach, and that no material nauſea can then be produced by it.

become very general, their efficacy is ſtill diſputed, and their manner of operating is not commonly explained*.

CLXXII.

Vomiting is, in many reſpects, uſeful in fevers; as it evacuates the contents of the ſtomach; as it emulges the biliary and pancreatic ducts; as it evacuates the contents of the duodenum, and perhaps of alſo a larger portion of the inteſtines; as it agitates the whole of the abdominal viſcera, expedes the circulation in them, and promotes their ſeveral ſecretions; and, laſtly, as agitating alſo the viſcera of the thorax, it has like effects there. All theſe ſeveral effects are, in many caſes and circumſtances of fever, procured with advantage; but do not properly fall under our view here, where we are to conſider only the effect of vomiting in determing to the ſurface of the body.

CLXXIII.

This effect we do not impute to the exerciſe of vomiting in agitating the whole frame; but to the particular operation of emetics upon the muſcular fibres of the ſtomach, whereby they excite the action of the extreme arteries on the ſurface of the body, ſo as thereby effectual to determine the blood into theſe veſſels, remove the atony, and take off the ſpaſm affecting them.

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* All the antimonial emetics are violent in their effects, and are ſometimes attended with diſagreeable conſequences. Emetic tartar is found from experience to be the ſafeſt of them; but it is not always of the ſame ſtrength, unleſs peculiar attention be paid to the making it. The preſcription for it in the laſt Edinburgh pharmacopœia is preferable to that in the London. Some Chemiſts think that it would be better to uſe boiling water alone, and omit the alkaline ſalt, alledging that the alkali renders the precipitation variable in point of ſtrength: But this opinion is erroneous. The alkali is uſed in order to free the precipitate more completely from any remains of the muriatic acid, making it thereby a milder powder and a more perfect calx.

CLXXIV.

That ſuch is the power of emetics, will appear from the ſeveral conſiderations mentioned above (xliv.) and therefore, that they are remedies well ſuited to the cure of fevers.

CLXXV.

Emetics, for that purpoſe, are adminiſtered in two different ways: that is, either in ſuch doſes as may excite full and repeated vomitings; or in ſuch doſes as may excite ſickneſs and nauſea only, with little or no vomiting at all.

CLXXVI.

Full vomiting is beſt ſuited to the ſeveral purpoſes mentioned clxxii. and is alſo well ſuited to determine to the ſurface of the body, ſo as thereby to obviate the atony and ſpaſm which lay the foundation of fever. Thus vomiting, excited a little before the expected acceſſion of the paroxyſm of an intermittent, has been found to prevent the paroxyſm altogether. And it has been obſerved alſo, that, when contagion has been applied to a perſon, and firſt diſcovers its operation, a vomit given will prevent the fever, which was otherwiſe to have been expected. See LIND *on Fevers and Inſpection.*

CLXXVII.

Theſe are advantages to be obtained by exciting vomiting at the firſt approach of fevers, or of the paroxyſms of fevers; and after fevers are formed, vomiting may alſo be employed, to take off, perhaps entirely, the atony and ſpaſm, or at leaſt to moderate theſe, ſo that the fever may proceed more gently and ſafely.

CLXXVIII.

It is ſeldom, however, that vomiting is found to produce a final ſolution of fevers; and, after they are once formed, it is commonly neceſſary to repeat the vomiting ſeveral times; but this is attended with inconvenience, and ſometimes with diſadvantage. The operation of full vomiting commonly ſoon ceaſes, and the exerciſe of vomiting is often a debilitating power; and therefore, when the vomiting does not remove the atony and ſpaſm very entirely, it may give occaſion to their recurring with greater force.

CLXXIX.

For theſe reaſons, after fevers are fully formed, phyſicians have thought proper to employ emetics in nauſeating doſes only. Theſe are capable of exciting the action of the extreme veſſels, and their operation is more permanent. At the ſame time, they often ſhow their power by exciting ſome degree of ſweat, and their operation is rendered more ſafe, by their commonly producing ſome evacuation by ſtool.

CLXXX.

Such are the advantages to be procured by nauſeating doſes of emetics; and it only remains to mention, what are the medicines moſt fit to be employed in that manner, what are the moſt proper times for exhibiting, and what is the beſt manner of adminiſtering them.

CLXXXI.

The emetics at preſent chiefly in uſe, are, Ipecacuanha and Antimony.

The former may be employed for every purpoſe of emetics, particularly thoſe mentioned clxxii. It may likewiſe be employed, either in larger or ſmaller doſes, for determining to the ſurface of the body: but, even in very ſmall doſes, it ſo readily excites vomiting, as to be with difficulty employed for the purpoſe of nauſeating only; and, however employed, there is reaſon to believe, that its effects are leſs permanent, and leſs powerfully communicated from the ſtomach to the reſt of the ſyſtem, than thoſe of Antimony.

CLXXXII.

This, therefore, is generally preferred; and its preparations, ſeemingly various, may all be referred to two heads: the *one*, comprehending thoſe in which the reguline part is in a condition to be acted upon by acids; and therefore, on meeting with acids in the ſtomach, becomes active: and the *other* comprehending thoſe preparations in which the reguline part is already joined with an acid, rendering it active.

CLXXXIII.

Of each kind there are great numbers, but not differing eſſentially from one another. It will be enough for us to compare the Calx Antimonii Nitrata of the Edinburgh Diſpenſatory with the Emetic Tartar of the ſame. The former, as I judge, is nearly the ſame with what is called James's Powder*: Which of theſe is beſt ſuited to the cure of fevers, as above explained, ſeems doubtful; but it appears to me that, although the former may have ſome advantages from its ſlower operation, and may thereby ſeem to be more certainly ſudorific and purgative, yet the uncertainty of its doſe renders it inconvenient, has often given occaſion to the timid to be diſappointed, and to the bold to do miſchief. On the other hand, the doſe of the Emetic Tartar can be exactly aſcertained; and I think it may be exhibited in ſuch a manner as to produce all the advantages of the other.

CLXXXIV.

Whichſoever of theſe preparations be employed, I judge the moſt proper time for exhibiting them, to be the time of acceſſions; or a little before, when that can be certainly known. In continued fevers, the exacerbations are not always very obſervable; but there is reaſon to think, that one commonly happens about noon, or ſoon after it, and another in the evening;

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* The pulvis antimonialis of the London Pharmacopœia is intended as a ſubſtitute for, or imitation of, James's powder. The doſe of it is 7 or 8 grains. It is by no means ſo ſure in its operations as the emetic tartar; yet it has been much extolled by ſeveral eminent modern practitioners.

ing; and that theſe, therefore, are the moſt proper times for exhibiting emetics.

CLXXXV.

With reſpect to the manner of adminiſtration, that of the Calx Nitrata is ſimple, as the whole of what is judged a proper doſe is given at once, and no more can properly be given till the time of the next acceſſion*.

The adminiſtration of the Emetic Tartar is different. It is to be given in ſmall doſes, not ſufficient to excite vomiting; and theſe doſes, after ſhort intervals, are to be repeated for ſeveral times, till ſickneſs, nauſea, and ſome, but not much, vomiting, come on. The difference of this adminiſtration muſt depend upon the doſe, and the length of the intervals at which it is given. If it be intended that the medicine ſhould certainly operate by ſtool, the doſes are made ſmall, and the intervals long. On the contrary, when vomiting is proper, or when much purging ought to be avoided, and therefore ſome vomiting muſt be admitted, the doſes are made larger and the intervals ſhorter†.

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[*] The doſe is ten or twelve grains. This calx, however, is very uncertain in its operations, ſometimes acting with great violence, and ſometimes ſcarcely producing any perceptible effects.

[†] The doſe of the Antimonium tartariſatum ſhould never exceed three grains. The beſt method of giving it is, to diſſolve three grains in ſix ounces of water; and of this mixture give two table ſpoonsful: if no vomiting enſues within twenty minutes, repeat the doſe, and continue to give a table ſpoonful every ten minutes till the vomiting is excited, which muſt be encouraged by drinking plentifully of chamomile tea, or a thin water gruel. If the Emetic tartar be intended for a ſudorific, two table ſpoonsful of the following ſolution every two or three hours will perhaps be more proper than ſmall doſes of the other.

℞. Antimonii tartariſati gr. ii.
Aq. Cinnamon. ℥ii.
——font, ℥vi.
M. F. Julap.

CLXXXVI.

With reſpect to both kinds of preparations, the repetition is to be made at the times of acceſſion, but not very often: for if the firſt exhibitions, duly managed, have little effect, it is ſeldom that the after exhibitions have much; and it ſometimes happens that the repeated vomitings, and eſpecially repeated purgings, do harm by weakening the patient.

CLXXXVII.

The other ſet of internal medicines, (clii, 2.) which I ſuppoſe may be uſeful in taking off the ſpaſm of the extreme veſſels, are thoſe named Antiſpaſmodic. How many of theſe may be properly employed, I am uncertain; and their mode of operation is involved in great obſcurity. It is certain however, that opium, camphor, muſk, and perhaps ſome others, have been employed in fevers with advantage; but the circumſtances in which they are eſpecially proper and ſafe, I find difficult to aſcertain; and therefore cannot venture here to lay down any general doctrine concerning them.

CLXXXVIII.

The external means (cli.) ſuited to take off the ſpaſm of the extreme veſſels, are BLISTERING and WARM BATHING.

CLXXXIX.

What are the effects of Bliſtering, ſo frequently employed in fevers, is not yet agreed upon among phyſicians; and many different opinions have been maintained on this ſubject, drawn not only from reaſoning, but alſo from preſumed experience. I muſt not, however, enter into controverſy; but ſhall deliver my own opinion in a few words.

CXC.

I am perſuaded, that the ſmall quantity of cantharides abſorbing from a bliſtering plaſter, is not ſufficient to change the conſiſtence of the maſs of blood:

and therefore that ſuch a quantity can neither do good, by reſolving phlogiſtic lentor, if it exiſts; nor do harm, by increaſing the diſſolution of the blood ariſing from a putrid tendency in it. I therefore neglect entirely the effects of cantharides upon the fluids.

CXCI.

The inflammation produced by the application of cantharides to the ſkin, affords a certain proof of their ſtimulant power: but, in many perſons, the effect of that ſtimulus is not conſiderable; in many, it is not communicated to the whole ſyſtem, and, even when the effect does take place in the whole ſyſtem, it ſeems to be taken off, very entirely, by the effuſion and evacuation of ſerum from the bliſtered part. I conclude, therefore, that neither much good is to be expected, nor much harm to be apprehended, from the ſtimulant power of bliſtering; and the certainty of this concluſion is eſtabliſhed, by the great benefit ariſing from the proper practice of bliſtering in inflammatory diſeaſes.

CXCII.

Much has been imputed to the evacuation occaſioned by bliſtering: but it is never ſo conſiderable as to affect the whole ſyſtem; and therefore can neither, by ſudden depletion, relax the ſanguiferous veſſels, nor, by any revulſion, affect the general diſtribution of the fluids.

CXCIII.

The evacaution, however, is ſo conſiderable as to affect the neighbouring veſſels; and the manifeſt utility of bliſtering near the part affected, in inflammatory diſeaſes, leads me to believe, that bliſtering by deriving to the ſkin, and producing an effuſion, there relaxes the ſpaſm of the deeper ſeated veſſels. I apprehend it to be in this manner that the tumour of a joint, from an effuſion into the cellular texture under the ſkin, takes off the rheumatic pain affecting that joint.

CXCIV.

Analogous to this, it may be held, that the good effects of bliſtering in continued fevers, ariſe from its relaxing the ſpaſm of the extreme veſſels, by a communication of the bliſtered part with the reſt of the ſkin; and this is illuſtrated by the effect of bliſtering in colic and dyſentery.

CXCV.

It appears to me, that bliſtering may be employed at any period of continued fevers; but that it will be of moſt advantage in the advanced ſtate of ſuch fevers, when, the reaction being weaker, all ambiguity from the ſtimulant power of bliſtering is removed, and when it may beſt concur with other circumſtances tending to a final ſolution of the ſpaſm.

CXCVI.

From the view of this matter given in cxciii. and cxciv. it will appear, that the part of the body to which bliſters ought to be applied, is indifferent, excepting upon the ſuſpicion of topical affection, when the bliſtering ought to be made as near as poſſible to the part affected.

CXCVII.

Whether Sinapisms, and other Rubefacientia, act in a manner analogous to what we have ſuppoſed of bliſtering, may be doubtful; but their effects in rheumatiſm, and other inflammatory diſeaſes, render it probable.

CXCVIII.

The other external means of taking off the ſpaſm of the extreme veſſels, is Warm Bathing. This was frequently, and in various circumſtances, employed by the ancients; but till very lately has been neglected by modern phyſicians. As the heat of the bath ſtimulates the extreme veſſels, and with the concurrence of moiſture, alſo relaxes, them it ſeems to be a ſafe ſtimulus well ſuited to take off the ſpaſm affecting them.

CXCIX.

It may be applied to the whole body by immerſion; but this is, in many reſpects, inconvenient; and whether ſome of the inconveniences of immerſion might not be avoided by a vapour-bath I have not learned from experience. I know, however, from much experience, that moſt of the purpoſes of warm-bathing can be obtained by a fomentation of the legs and feet, if properly adminiſtered, and continued for a due length of time, which ought not to be leſs than an hour.

CC.

The marks of the good effects of ſuch fomentation, are, the patient's bearing it eaſily, its relieving delirium, and inducing ſleep.

CCI.

Having now conſidered the ſeveral means of ſatisfying the firſt general indication in the cure of fevers, I proceed to the ſecond (cxxvi.) which is, *To remove the cauſe, or obviate the effects of debility.*

CCII.

Moſt of the ſedative powers inducing debility, ceaſe to act ſoon after they have been firſt applied; and, therefore, the removing them is not an object of our preſent indication. There is only one which may be ſuppoſed to act for a long time; and that is, the contagion applied: but we know nothing of the nature of contagion that can lead us to any meaſures for removing or correcting it. We know only its effects as a ſedative power inducing debility, or as a ferment inducing a tendency to putrefaction in the fluids. The obviating the latter will be conſidered under our third general indication, and the former alone is to be conſidered here.

CCIII.

The debility induced in fevers by contagion, or other cauſes, appears eſpecially in the weaker energy of the brain; but in what this conſiſts, or how it may be directly reſtored, we do not well know. As nature, however, does, ſeemingly for this purpoſe, excite the action of the heart and arteries, we aſcribe the continuance of debility to the weaker reaction of the ſanguiferous ſyſtem; ſo that the means to be employed for obviating debility, are immediately directed to ſupport and increaſe the action of the heart and arteries; and the remedies uſed are TONICS or STIMULANTS.

CCIV.

In contagious diſeaſes, both from the effects which appear, and from diſſections, it is known, that the tone of the heart and arteries is conſiderably diminiſhed; and that tonic remedies, therefore, are properly indicated.

Theſe are to be conſidered as of two kinds; the firſt being the power of cold, the ſecond that of tonic medicines.

CCV.

The power of cold, as a tonic, I have mentioned above (xc.) and it is employed, in fevers, in two ways; either as the cold matter is thrown into the ſtomach, or as it is applied to the ſurface of the body.

CCVI.

As it has been ſhewn above, that the tonic power of cold can be communicated from any one part to every other part of the ſyſtem; ſo it will readily be allowed, that the ſtomach is a part as fit for this communication as any other; and that cold drink, taken into the ſtomach, may therefore prove an uſeful tonic in fevers.

CCVII.

This the experience of all ages has confirmed: but, at the ſame time, it has been frequently obſerved, that, in certain circumſtances, cold drink, taken into the ſtomach, has proved very hurtful; and, therefore, that the uſe of cold drink in fevers requires ſome limitations.

mitations. What theſe limitations ſhould be, and what are all the circumſtances which may forbid the uſe of cold drink, is difficult to determine; but it ſeems clearly forbidden, in all caſes where a phlogiſtic diatheſis prevails in the ſyſtem, and more eſpecially when there are topical affections of an inflammatory nature.

CCVIII.

The other method of employing cold as a tonic, is, by applying it to the ſurface of the body. The application of cold air to the ſurface of the body, as a refrigerant power fit to moderate the violence of the reaction, I have ſpoken of above, (cxxxiii.) but probably it may alſo be conſidered here as a tonic, and uſeful in caſes of debility.

CCIX.

Not only cool air, but cold water alſo, may be applied to the ſurface of the body, as a refrigerant, and perhaps as a tonic. The ancients frequently applied it with advantage, to particular parts, as a tonic; but it is a diſcovery of modern times, that in the caſe of putrid fevers, attended with much debility, the body may be waſhed all over with cold water.

CCX.

This was firſt practiſed at Breſlaw in Sileſia, as appears from a diſſertation, under the title of *Epidemia verna quæ Wratiſlaviam, anno* 1737, *affixit*, to be found in the appendix to the *Acta Nat. Curioſ.* Vol. X. And from other writers we find, that the practice has paſſed into ſome of the neighbouring countries; although in this iſland, ſo far as I know, we have hitherto had no experience of it.

CCXI.

The medicines which have been employed in fevers, as tonics, are various. If the Saccharum Saturni has been found uſeful, it is, probably, as a tonic, rather than as a refrigerant; and the Ens Veneris, or other

ther preparations of iron which have been employed, can act as tonics only. The preparations of copper, from their effects in epilepſy, are preſumed to poſſeſs a tonic power; but, whether their uſe in fevers be founded upon their tonic or their emetic powers, may be uncertain. The uſe of arſenic and of alum, in intermittent fevers, ſeems manifeſtly to depend upon their tonic power. And, upon the whole, there may occur caſes of continued fevers, which may be cured by tonics taken from the foſſile kingdom: but the uſe of theſe has been rare, as well as the effects uncertain; and phyſicians have employed, more commonly, the vegetable tonics.

CCXII.

A great variety of theſe has been employed in the cure of intermittent fevers; but how many of them may be employed in continued fevers, or in what circumſtances of theſe fevers, is not well aſcertained; and I ſhall now only conſider the queſtion with reſpect to the moſt celebrated of the tonics, the Peruvian Bark*.

CCXIII.

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* When or how the inhabitants of Peru firſt diſcovered the febrifuge powers of this bark is involved in fable and uncertainty. They appear, however, to have long known its virtue, although we have no proofs of revealing it to the Europeans before the middle of the laſt century. The Spaniards calls the tree which produces it Palo de Calenturas, or fever tree. Linne calls it Cinchona officinalis, in memory of the Counteſs de Cinchon, the Spaniſh viceroy's Lady in Peru, who was the firſt European that had been cured by it. It was firſt brought into Italy by a Jeſuit about the year 1649, and diſtributed through Europe by the fathers of that order; hence the names Cortex and Pulvis Jeſuiticus, Pulvis patrum. By Cardinal de Lugo's influence a cargo of it was procured and brought to Rome ſoon after, whence it received the name of Pulvis Cardinalis de Lugo. As this bark is a medicine of conſiderable importance, it may not be improper to join a ſhort deſcription of the external qualities of the beſt ſort. It is in concave pieces, ſcarcely ever exceeding the fourth part of a cylinder cut longitudinally. It breaks ſhort, and when broken evidently appears to be compoſed of three diſtinct and ſeparate coats, viz. one outer thin coat, that is ſomewhat rugged, often covered with moſs of different kinds, and is of

CCXIII.

This bark has been commonly conſidered as a ſpecific, or as a remedy of which the operation was not underſtood. But it is certainly allowable to enquire into this matter; and I apprehend it may be explained.

CCXIV.

To this purpoſe it is to be remarked, that as, in many caſes, the effects of the bark are perceived ſoon after its being taken into the ſtomach, and before it can poſſibly be conveyed to the maſs of blood, we may conclude, that its effects do not ariſe from its operating on the fluids; and muſt, therefore, depend upon its operating on the nerves of the ſtomach, and being thereby communicated to the reſt of the nervous ſyſtem. This operation ſeems to be a tonic power, the bark being a remedy in many caſes of debility, particularly in gangrene: and, as the recurrence of the paroxyſms of intermittent fevers depends upon a recurrence of atony, (xxxv, and xxxvi.) ſo probably the bark,

a reddiſh brown colour like cinnamon. The middle coat is conſiderably thicker, of a cloſer texture, and deeper colour than the firſt, and is leſs brittle but more reſinous than any other part. The third or innermoſt coat is woody and fibrous, and of a britiſh red, at leaſt conſiderably brighter than any of the others. From this deſcription of the bark, great care muſt be taken in powdering it, not to leave much groſs powder, but to paſs the whole of it through the ſieve, becauſe the moſt reſinous, and conſequently the moſt effectual, part of the bark is the longeſt and moſt difficult to powder. With reſpect to the two kinds of bark ſo much talked of and noticed a few years ago, it may be proper to obſerve, that they ſeem to be the production of the ſame tree. The Spaniards always ſelected ſuch pieces as thoſe above deſcribed out of the original packages, and rejected the thin, pale, and quilled ſort, which the Engliſh preferred. It is certain that both the red, pale, quilled, and a variety of gradation between them, all occur in the ſame cheſt as originally imported; and it is extremely improbable, that the bark of different kinds of trees ſhould be packed together. Be this matter however as it may, experience gives the preference to what is called the red bark, and this ſort ought ſurely to be uſed.

bark, by its tonic power, prevents the recurrence of theſe paroxyſms; and this is greatly confirmed by obſerving, that many other tonic medicines anſwer the ſame purpoſe.

CCXV.

If the operation of the bark may be thus explained, from its poſſeſſing a tonic power, it is eaſy to perceive why it is improper when a phlogiſtic diatheſis prevails; and, from the ſame view, we can aſcertain in what caſes of continued fever it may be admitted: Theſe are either after conſiderable remiſſions have appeared, when it may be employed to prevent the return of exacerbations, on the ſame footing that it is uſed in intermittent fevers; or in the advanced ſtate of fevers, when all ſuſpicion of an inflammatory ſtate is removed, and a general debility prevails in the ſyſtem; and its being then employed is ſufficiently agreeable to the preſent practice.

CCXVI.

With reſpect to the uſe of the bark, it is proper to add, that good effects are to be expected from it, almoſt only when given in ſubſtance and in large quantity*.

CCXVII.

Another ſet of medicines to be employed for obviating debility and its effects, are the direct ſtimulants, (cciii.) Theſe, in ſome meaſure, increaſe the tone of the moving fibres; but they are different from the tonics, as more directly exciting and increaſing the action of the heart and arteries. This mode of their operation

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* The doſes of the bark can only be determined from the ſtate of the patient's ſtomach and the violence of the diſeaſe: It is uſual to give a drachm of the powder at a doſe, and repeat it every two or three hours, according to the exigency of the caſe, or the ſtate of the patient's bowels. It frequently paſſes off by ſtool when given too liberally; this inconvenience is obviated by giving a few drops, 8 or 12, of laudanum, with each doſe.

peration renders the uſe of them ambiguous; and when an inflammatory diatheſis is preſent, as ſo often happens in the beginning of fevers, the effects of theſe ſtimulants may be very hurtful; but it ſtill remains probable, that, in the advanced ſtate of fevers, when debility prevails, they may be uſeful.

CCXVIII.

What are the ſtimulants that may be moſt properly employed, I am uncertain, as the uſe of them in this age has been rare; but I am diſpoſed to believe that, of all kinds, wine is the beſt.

CCXIX.

Wine has the advantage of being grateful to the palate and ſtomach, and of having its ſtimulant parts ſo much diluted, that it can be conveniently given in ſmall doſes; ſo that it may be employed with ſufficient caution; but it is of little ſervice unleſs taken pretty largely*.

CCXX.

It may be ſuppoſed, and on good grounds, that wine has an operation analogous to that of opium and ſome other narcotic medicines. It may indeed be ſaid, that we can diſtinctly mark its ſtimulant power only, which renders its effects in the phrenitic delirium manifeſtly hurtful, and, in the mild delirium, depending on debility, as remarkably uſeful. But in all this, the analogy with opium is ſtill obvious; and it is probable, that both wine and opium are more uſeful by their

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* Wine is a valuable cordial, and is much ſuperior to moſt other ſtimulants; it raiſes the pulſe, ſupports the vis vitæ, promotes diaphoreſis, and reſiſts putrefaction. With reſpect to the medical differences of wines, it may ſuffice to obſerve, that the effects of full bodied wines are more laſting than thoſe of the thinner. Red wines are ſubaſtringent, and conſequently poſſeſs a tonic virtue, and are hence more proper in fevers of all kinds where wine is at all admiſſible, than white wines are. All ſweet wines are nutritive and in general more ſtimulating than others; but they heat much, and are apt to turn ſour on the ſtomach.

their ſedative and antiſpaſmodic, than by their ſtimulant powers.

CCXXI.

Theſe are the means of anſwering our ſecond general indication (cxxvi, 2.) and I now proceed to the third, which is, *To obviate or to correct the tendency of the fluids to putrefaction.*

CCXXII.

This may be done,

1. By avoiding any new application of putrid or putreſcent matter.

2. By evacuating the putrid or putreſcent matter already preſent in the body.

3. By correcting the putrid or putreſcent matter remaining in the body.

4. By ſupporting the tone of the veſſels, and thereby reſiſting further putrefaction, or obviating its effects.

CCXXIII.

The further application of putrid or putreſcent matter may be avoided,

1. By removing the patient from places filled with corrupted air.

2. By correcting the air from which he cannot be removed.

3. By preventing the accumulation of the patient's own effluvia, by a conſtant ventilation, and by a frequent change of bed-clothes and body-linen.

4. By the careful and ſpeedy removal of all excremental matters from the patient's chamber.

5. By avoiding animal food, or correcting it.

CCXXIV.

The putrid or putreſcent matter, already preſent in the body, may be evacuated partly by evacuating frequently the contents of the inteſtines*; and more effectually ſtill, by ſupporting the excretions of perſpiration and urine, by the plentiful uſe of diluents*.

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* The evacuants to be uſed in theſe caſes are, the milder purges, ſuch as manna, &c. Rhubarb and ſenna may alſo be uſed; but we

CCXXV.

The putrid or putreſcent matter, remaining in the body, may be rendered more mild and innocent by the uſe of diluents; or may be corrected by the uſe of antiſeptics. Theſe laſt are of many and various kinds; but which of them are conveniently applicable, or more particularly ſuited to the caſe of fevers, is not well aſcertained. Thoſe moſt certainly applicable and uſeful, are, aceſcent aliments, acids† of all kinds, neutral ſalts‡ and fixed air§.

CCXXVI.

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muſt avoid the draſtic purges, ſuch as jalap, ſcammony, aloes, and ſimilar reſinous purges. Calomel has been found very uſeful in theſe caſes: It may be given to the quantity of 8 or 10 grains, and three ounces of the infuſum ſennæ with half an ounce of Glauber's ſalt may be given, about 10 or 12 hours after it, to accelerate its operation.

* The diluents neceſſary in theſe caſes muſt all be mixt with a little port wine or claret. Warm port wine and water is the beſt diluent.

† Whether all kinds of acids are to be uſed as antiſeptics is ſomewhat doubtful. The mineral acids, eſpecially the vitriolic, have been much recommended; but the vegetable acids ſeem much more efficacious. As their mildneſs allows us to give them in very large quantities, and as they more eaſily enter into a union with the animal fluids than the foſſile acids do, they ſeem more ſuitable antiſeptics in theſe caſes. Whether there is any difference between the native vegetable acids and vinegar, with reſpect to their antiſeptic qualities, was formerly much diſputed by practitioners. Phyſicians, however, have now ſettled this queſtion; and are generally of opinion, that, in caſes of putreſcence ariſing from fevers, the fermented acid is moſt proper; but, in caſes of putreſcence without fever, they prefer the native acid juices.

‡ The antiſeptic power of the different neutral ſalts is extremely various. According to the reaſoning in the foregoing note, thoſe conſiſting of a vegetable acid baſe ought to be preferred; and indeed experience confirms the opinion. The ſpiritus Mindereri would perhaps be uſeful, if it could be prevented from paſſing too haſtily off by ſweat and urine. In doſes of a drachm every two hours, it is leſs ſubject to promote ſweet and urine, than when given in the uſual doſe of half an ounce. Lemon juice, ſaturated with volatile alkali, has often been ſucceſsfully uſed in theſe caſes; eſpecially when they are taken either in the act of efferveſcence, or ſeparately, the one immediately after the other.

§ The antiſeptic qualities of fixed air are much doubted by ſeve-

CCXXVI.

The progreſs of putrefaction may be conſiderably retarded, and its effects obviated, by ſupporting the tone of the veſſels: and this may be done by tonic remedies; the chief of which are, Cold, and Peruvian Bark, both ſufficiently treated of above. (ccv. *et ſeq.*)

CCXXVII.

I have now finiſhed the conſideration of the three general indications to be formed in the cure of continued fevers; and have mentioned moſt of the remedies which have been, upon any occaſion, employed in this buſineſs. It was neceſſary, in the firſt place, to conſider theſe indications and remedies ſeparately, and to explain the operation of the latter more generally: but, from what has been now delivered, compared with what was ſaid above, concerning the difference of fevers, and the ſignification of their ſeveral ſymptoms in forming the prognoſtic, I expect it will not be difficult to aſſign the indication, and to ſelect and combine the ſeveral remedies mentioned, ſo as to adapt them to the ſeveral ſpecies and circumſtances of continued fevers. I think

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ral eminent phyſicians. The giving it is frequently very difficult, and ſometimes even impoſſible. The author might have added ſeveral other antiſeptics to the ſhort liſt he has given: What he has mentioned, however, are ſuch as are generally uſed, or approved of by practitioners. Campher is a conſiderable antiſeptic, but it is of too heating a quality to be given in ſuch quantities as ſeem neceſſary. The common doſe of it is from one to ten grains, and it is beſt exhibited in the form of a bolus; in which form it may alſo be joined with ſome other antiſeptic, as

℞. Camphor. gr. viii.
Spt. Vini. gutt. x.
Pulv. Rad. Contrayerv. ℈ii.
Syr. Simpl. q. ſ.
M. f. bol.

This doſe may be repeated every ſix hours, or oftener, eſpecially if the pulſe be low or weak. In uſing camphor the practitioner ought to remember that this medicine, when given in large quantities, frequently occaſions delirium. Peculiar attention muſt therefore be paid to that ſymptom, and the doſes of camphor regulated with caution.

I think it may be uſeful for my Readers to have the whole of the cure of CONTINUED FEVERS brought under one View, as in the following TABLE.

IN THE CURE OF CONTINUED FEVERS,

THE INDICATIONS ARE,

I. *To moderate the violence of reaction.*

Which may be done by,
1. Diminiſhing the action of the heart and arteries, by
   A. Avoiding or moderating thoſe irritations which are almoſt conſtantly applied to the body; as,
      a. The impreſſions made upon our ſenſes, particularly,
         a. Increaſed heat, whether ariſing from
         aa. External heat, or,
         cc. The accumulation of the heat of the body.
      b. The exerciſe of the body,
      c. The exerciſe of the mind,
      d. The taking in of aliment,
      e. Particular irritations ariſing from
         a. The ſenſe of thirſt,
         c. Crudities, or corrupted humours, in the ſtomach,
         b. The preternatural retention of fæces.
         b. A general acrimony of the fluids.
   B. Employing certain ſedative powers; as,
      a. Cold,
      b. Refrigerants; the chief of which are,
         a. Acids of all kinds,
         c. Neutral ſalts,
         b. Metallic ſalts.
   C. Diminiſhing the tenſion and tone of the arterial ſyſtem, by
      a. Blood-letting,
      b. Purging.
2. Taking off the ſpaſm of the extreme veſſels, by
   A. Internal means; which are,
      a. Thoſe remedies which determine to the ſurface, as,
         a. Diluents,
         c. Neutral ſalts,
         b. Sudorifics,
         d. Emetics.
      b. Thoſe remedies named antiſpaſmodics.
   B. External means; as,
      a. Bliſtering,
      b. Warm bathing.

II. *To remove the cauſes, or obviate the effects, of debility*, by

1. Supporting and increaſing the action of the heart and arteries, by
   A. Tonics, as,

- a. Cold,
- b. Tonic medicines, which are either,
  - *a.* Foſſile, as,
    - *aa.* Saccharum ſaturni, &c. or,
  - *c.* Vegetable, as,
    - *aa.* Peruvian Bark.
- B. Stimulants, as,
  - a. Aromatics, &c.
  - b. Wine.

III. *To obviate or correct the tendency of the fluids to putrefaction*, by

1. Avoiding the application of putrid or putreſcent matter, by
- A. Removing the patient from places filled with corrupted air.
- B. Correcting the air from which he cannot be removed.
- C. Avoiding the accumulation of the patient's own effluvia, by
  - a. A conſtant venilation,
  - b. Frequently changing the bed-clothes and body-linen.
- D. Removing carefully and ſpeedily all excremental matters.
- E. Avoiding animal food, or correcting it.

2. Evacuating the putrid or putreſcent matter already preſent in the body, by
- A. Evacuating frequently the inteſtines.
- B. Supporting the excretions of perſpiration and urine, by
  - a. Diluents,
  - b. Neutral ſalts.

3. Correcting the putrid or putreſcent matter remaining in the body, by
- A. Diluents,
- B. Antiſeptics,
- C. Fixed air.

4. Reſiſting farther putrefaction, or obviating its effects, by Supporting the tone of the veſſels, by Tonic remedies.

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SECT. II.

OF THE CURE OF INTERMITTENT FEVERS.

CCXXVIII.

It ſtill remains to conſider the cure of intermittent fevers; and, with reſpect to theſe, we form alſo three general indications.

1. *In the time of intermiſſion, to prevent the recurrence of paroxyſms.*

2. *In the time of paroxyſms, to conduct theſe ſo as to obtain a final ſolution of the diſeaſe.*

3. *To take off certain circumſtances which might prevent the fulfilling of the two firſt indications.*

CCXXIX.

The firſt indication may be anſwered in two ways:

1. By increaſing the action of the heart and arteries ſome time before the period of acceſſion, and ſupporting that increaſed action till the period of the acceſſion be over, ſo as thereby to prevent the recurrence of the atony and ſpaſm of the extreme veſſels which give occaſion to the recurrence of paroxyſms.

2. Without increaſing the action of the heart and arteries, the recurrence of paroxyſms may be prevented, by ſupporting the tone of the veſſels and thereby preventing atony, and the conſequent ſpaſm.

CCXXX.

For the purpoſe mentioned in ccxxix, 1. the action of the heart and arteries may be increaſed,

1. By various ſtimulant remedies, internally given, or externally applied, and that without exciting ſweat.

2. By the ſame remedies, or others ſo managed as to excite ſweating, and to ſupport that ſweating till the period of acceſſion be for ſome time paſt.

3. By nauſeating doſes of emetics, given about an hour before the time of acceſſion, thereby ſupporting and increaſing the tone and action of the extreme veſſels.

CCXXXI.

The tone of the extreme veſſels may be ſupported without increaſing the action of the heart and arteries (ccxxix, 2.) by various tonic medicines; as,

1. Aſtringents alone.
2. Bitters alone.
3. Aſtringents and bitters conjoined.

4. Aſtringents and aromatics conjoined.
5. Certain metallic tonics.
6. Opiates.
Laſtly, an impreſſion of horror.

A good deal of exerciſe, and as full a diet as the conditon of the patient's appetite and digeſtion may allow of, will be proper during the time of intermiſſion, and may be conſidered as belonging to this head.

CCXXXII.

Of all the tonic remedies menioned (ccxxxi.) the moſt celebrated, and perhaps the moſt certainly effectual, is the Peruvian bark, the tonic power of which we have endeavoured to demonſtrate above (ccxiv.) and have at the ſame time explained its uſe in continued fevers.

The ſame obſervation as made in ccxvi. is eſpecially proper in the caſe of intermittents: and further, with reſpect to theſe, the following obſervations or rules are offered here.

1. That the bark may be employed with ſafety at any period of intermittent fevers, providing that, at the ſame time, there be neither a phlogiſtic diatheſis prevailing in the ſyſtem, nor any conſiderable or fixed congeſtion preſent in the abdominal viſcera.

2. The proper time for exhibiting the bark in intermittent fevers, is during the time of intermiſſion; and where intermiſſions are to be expected, it is to be abſtained from in the time of paroxyſms.

3. In remittents, though no entire apyrexia occurs, the Bark may be given during the remiſſions; and it ſhould be given, even though the remiſſion be inconſiderable, if, from the known nature of the epidemic, intermiſſions or conſiderable remiſſions are not to be ſoon expected, and that great danger is apprehended from repeated exacerbations.

4. In the caſe of genuine intermittents, while a due quantity of Bark is to be employed, the exhibition of

it ought to be brought as near to the time of acceſſion as the condition of the patient's ſtomach will allow.

5. In general, in all caſes of intermittents, it is not ſufficient that the recurrence of paroxyſms be ſtopped for once by the uſe of the bark; a relapſe is commonly to be expected, and ſhould be prevented by the exhibition of the bark, repeated at proper intervals*.

R 2 CCXXXIII.

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* The quantity of bark to be given in the intermiſſion muſt be as great as the ſtomach can poſſibly bear. It is very common to give two ounces during the intermiſſion, in doſes of half a drachm or two ſcruples every hour, eſpecially in quartans. But it has been found more ſucceſsful in its operations, when we begin with ſmall doſes, viz. ℈i. in the commencement of the intermiſſions, and increaſe the doſes to ʒi. towards the end of it. The bark ſometimes ſits better on the ſtomach by adding to it about an eighth or a fourth of its weight of ſome aromatic antiſeptic. Virginian ſnake root anſwers this intention very well. An ounce of red bark and two drachms of ſnake root taken during the intermiſſion of a tertian, if the ſtomach can bear it, or if no diarrhœa comes on, generally prevents the next paroxyſm. In caſe of diarrhœa being produced by bark, ten or twelve drops of laudanum are to be given three or four times with each doſe of the bark. The ſubſtances generally joined with the bark in preſcription, ſeem calculated either to promote its efficacy or reduce it to the intended form, without having regard to the agreeableneſs of the compoſition. This however is a point of great conſequence, as the taſte of the bark, and the large quantity of it neceſſary for the cure, make the patient frequently loath it before its uſe ought to be diſcontinued. When made into an electuary or bolus with ſyrups, it ſticks about the mouth or fauces; whence its taſte remains a long while; but, when made into an electuary with mucilages, it paſſes down freely, ſcarcely leaving any taſte behind it. The taſte of the bark is very effectually concealed by liquorice root in a decoction, or by the extract in an electuary. The extract of logwood alſo conceals the taſte of the bark, and an electuary made with it, and a ſufficient quantity of mucilage, is a very elegant form. Decoctions, infuſions, and tincture of the bark are much leſs efficacious than the ſubſtance. The extract and the reſin are ſeldom employed in the cure of intermittents, except when other forms will not ſit on the ſtomach. The formula in the laſt London Pharmacopœia is the beſt, being a compound of both the extract and reſin; for the watery extract is ſtrong in bitterneſs, but weak in aſtringency, and the reſin is ſtrong in aſtringency, but weak in bitterneſs, and

CCXXXIII.

Our ſecond general indication for conducting the paroxyſms of intermittent fevers, ſo as to obtain a final ſolution of the diſeaſe, may be anſwered,

1. By exhibiting emetics during the time of the cold ſtage, or at the beginning of the hot.

2. By opiates given during the time of the hot ſtage*.

CCXXXIV.

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both qualities are neceſſary for curing intermittents. About ten or twelve grains of the extract are equivalent to half a drachm of powder. When a paroxyſm has been ſtopped by the bark, it is by no means ſafe to abandon the uſe of this medicine altogether, as a relapſe is always to be apprehended. The doſes are gradually to be diminiſhed, and the intervals between the times of given them are to be increaſed: After tertians, we may diminiſh the quantity daily one half, till we arrive at two drachms; and theſe two drachms ought to be continued in doſes of two ſcruples three a day for eight days; after which period, two ſcruples ought to be given night and morning for a week longer: after quartans, when the doſe is reduced to two drachms a day, it will be prudent to continue giving this quantity daily for a fortnight, and half a drachm night and morning for a fortnight longer. In order the more effectually to prevent a relapſe, great attention muſt be paid to diet and regimen. Patients are generally extremely voracious after the cure of intermittents; and indeed they require conſiderable nutrition to ſupply the waſte occaſioned by the fever. Small quantities of food are to be taken at once and to be often repeated; and the moſt nutritive, and at the ſame time eaſily digeſtable food, muſt be choſen, as broths with barley and white fleſh meat, roaſt lamb, veal, chickens, new laid eggs, broiled freſh fiſh, &c. Acrid, aceſcent, and irritating aliments, and acids are to be carefully avoided. The drink ought to be in moderate quantity, but rich and ſtrong; as mild ale, Port wine and water. With reſpect to the regimen proper for convaleſcents from intermittents, it may ſuffice to obſerve, that ſleep may be indulged in. Exerciſe without fatigue is of great uſe, either by walking, by riding on horſeback, or in a carriage, according to the ſtrength of the patient. But above all, cold muſt be carefully avoided; for nothing more effectually produces a relapſe than an imprudent expoſure to cold damp air, or a neglect in keeping the body properly clothed. The practice of giving purges after the cure of intermittents is highly blameable, and is frequently the caſe of a relapſe. Should coſtiveneſs be troubleſome, it may be removed by very mild emollient clyſters.

* This practice, of giving vomits in the end of the cold ſtage and

CCXXXIV.

The circumſtances which may eſpecially prevent the fulfilling of thoſe two indications, and therefore give occaſion to our third, are, a phlogiſtic diatheſis prevailing in the ſyſtem, and congeſtions fixed in the abdominal viſcera. The firſt muſt be removed by blood-letting and the antiphlogiſtic regimen; the ſecond, by vomiting and purging.

Where theſe meaſures are not immediately effectual, I hold it ſafer to attempt the cure of the diſeaſe by the means pointed out in general in ccxxix. rather than by thoſe in article ſecond of the ſame paragraph.

BOOK II.

OF INFLAMMATIONS,

OR

PHLEGMASIÆ.

CHAP. I.

OF INFLAMMATION IN GENERAL.

SECT. I.

OF THE PHENOMENA OF INFLAMMATION.

CCXXXV.

WHEN any part upon the ſurface of the body is affected with unuſual redneſs, heat, pain and tumour,

an opiate after their operation, is old. It is mentioned by Sydenham, Boerhaave, Van Swieten, and moſt practical writers. It muſt not however be indiſcriminately uſed. It is ſeldom attended with any ſalutary effect, except in vernal intermittents, and in the earlier period of the diſeaſe; and it is conſtantly attended with diſadvantage when the diſeaſe has been of long continuance.

tumour, we name the diſeaſe an Inflammation or Phlegmaſia. Theſe ſymptoms of inflammation are never conſiderable, without the whole ſyſtem being, at the ſame time, affected with pyrexia.

CCXXXVI.

As the external, ſo likewiſe the internal parts may be affected with inflammation; and we judge them to be ſo, when, together with pyrexia, there is a fixed pain in any internal part, attended with ſome interruption in the exerciſe of its functions,

CCXXXVII.

We judge of the preſence of inflammation alſo from the ſtate of the blood drawn out of the veins. When the blood, after cooling and concreting ſhows a portion of the gluten ſeparated from the reſt of the maſs, and lying on the ſurface of the craſſamentum; as ſuch ſeparation happens in all caſes of more evident Phlegmaſia; ſo, in ambiguous caſes, we, from this appearance, joined with other ſymptoms, infer the preſence of inflammation. At the ſame time, it muſt be obſerved, that as ſeveral circumſtances in blood-letting, may prevent this ſeparation of gluten from taking place in blood otherwiſe diſpoſed to it; ſo, from the abſence of ſuch appearance, we cannot always conclude againſt the preſence of inflammation.

CCXXXVIII.

I cannot eaſily give any other general hiſtory of the phenomena of inflammation than what is contained in the three preceding paragraphs; and the variations which may take place in its circumſtances, will occur to be more properly taken notice of under the ſeveral heads of the particular genera and ſpecies to be hereafter mentioned. I proceed, therefore, to enquire into the proximate cauſe of inflammation in general.

SECT. II.

OF THE PROXIMATE CAUSE OF INFLAMMATION.

CCXXXIX.

The phenomena of inflammation (ccxxxv.) all concur in ſhowing, that there is an increaſed impetus of the blood in the veſſels of the part affected; and as, at the ſame time, the action of the heart is not always evidently increaſed, there is reaſon to preſume, that the increaſed impetus of the blood in the particular part is owing eſpecially to the increaſed action of the veſſels of that part itſelf.

CCXL.

The cauſe of this increaſed action in the veſſels of a particular part is, therefore, what we are to inquire after, and to conſider as the proximate cauſe of inflammation.

In many caſes, we can manifeſtly perceive, that inflammation ariſes from the application of ſtimulant ſubſtances to the part. When the application of ſuch ſtimulants, therefore, is evident, we ſeek for no other cauſe of inflammation; but as, in many caſes, ſuch application is neither evident, nor, with any probability, to be ſuppoſed, we muſt, in ſuch caſes, ſeek for ſome other cauſe of the increaſed impetus of the blood in the veſſels of the part.

CCXLI.

Many phyſicians have ſuppoſed, that an obſtruction of the extreme veſſels, any how produced, may prove a cauſe of inflammation; and particularly, that this may ariſe from an obſtruction formed by a matter ſtopping up theſe veſſels. But many difficulties attend this doctrine*. 1.

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* This is the Boerhaavian doctrine which the author here refutes, many objections might be made againſt ſeveral parts of this refutation; but to examine it minutely, is foreign to my purpoſe, and would require more room than the narrow limits of theſe notes can poſſibly allow.

1. The opinion ſeems chiefly to have ariſen from the appearance of the blood deſcribed in ccxxxvii. when the ſeparated gluten was conſidered as a preternatural and morbid matter: but we now know very certainly, that this gluten is conſtantly a conſtituent part of the human blood; and that it is only a peculiar ſeparation of the parts of the blood, that happens in conſequence of inflammation and ſome other circumſtances, which gives occaſion to the appearance that was falſely conſidered as a mark of a morbid lentor in the blood.

2. There are no experiments directly in proof of a preternatural lentor prevailing in the maſs of blood; nor is there any evidence of certain parts of the blood occaſionally acquiring a greater denſity and force of coheſion than ordinary; neither is there any proof of the denſer, or more coherent parts, being preſent in the maſs of blood in ſuch greater proportion than uſual, as to occaſion a dangerous ſpiſſitude. The experiments of Dr. Brown Langriſh on this ſubject afford no concluſion, having been made on certain parts of the blood ſeparated from the reſt, without attending to the circumſtances of blood-letting, which very much alter the ſtate of the ſeparation and concretion of the blood drawn out of the veins.

3. The ſuppoſition of a preternatural lentor or viſcidity of the blood, is not well founded; for it is probable, that nature has ſpecially provided againſt a ſtate of the fluids, ſo incompatible with the exerciſe of the moſt important functions of the animal œconomy While motion continues to prevent a ſeparation of parts, and heat continues to preſerve the fluidity of the more viſcid, there ſeems to be always ſo large a proportion of water preſent as to give a ſufficient fluidity to the whole. I muſt own that this is not abſolutely concluſive; but I ſtill repeat it, as giving a probability to the general argument.

4. In the particular caſe of inflammation, there are ſeveral circumſtances which render it probable that the blood is then more fluid than uſual.

5. I preſume that no ſuch general lentor, as Boerhaave and his diſciples have ſuppoſed, does ever take place; becauſe if it did, it muſt ſhow more conſiderable effects than commonly appear.

6. Beſides the ſuppoſition of an obſtructing lentor, phyſicians have ſuppoſed, that an obſtruction may be formed by an impermeable matter of another kind, and that ſuch an obſtruction may alſo be the cauſe of inflammation. This ſuppoſition is what is well known in the ſchools under the title of an *error loci;* but it is an opinion that I cannot find to be at all probable: for the motion of the blood in the extreme veſſels is ſo weak and ſlow, as readily to admit a retrograde courſe of it; and therefore, if a particle of blood ſhould happen to enter a veſſel whoſe branches will not allow of its paſſage, it will be moved backwards, till it meet with a veſſel fit for tranſmitting it; and the frequent ramifications and anaſtomoſes of the extreme arteries are very favourable to this. I muſt own indeed, that this argument is not abſolutely concluſive; becauſe I allow it to be pretty certain, that an *error loci*; does actually upon occaſion happen; but, for the reaſons I have given, it is probable that it ſeldom happens, and is therefore rarely the cauſe of inflammation; or if it be, that it is not merely by the obſtruction that it produces; as, among other reaſons, I conclude particularly from the following argument.

7. Though an obſtruction ſhould be ſuppoſed to take place, it will not be ſufficient for producing the effects, and exhibiting the phenomena, that appear in inflammation. The theory that has been commonly employed on this occaſion is by no means ſatisfying; and, in fact, it appears, from many obſervations and experiments, that conſiderable obſtructions may

be formed, and may ſubſiſt, without producing the ſymptoms of inflammation.

CCXLII.

Obſtruction, therefore, from a matter ſtopping up the veſſels, *Gaub. Pathol.* 249. 1. is not to be conſidered as the primary cauſe of inflammation; but, at the ſame time, it is ſufficiently probable, that ſome degree of obſtruction does take place in every caſe of inflammation. The diſtenſion, pain, redneſs and tumour, attending inflammation, are to be explained only by ſuppoſing, that the extremities of the arteries do not readily tranſmit the unuſual quantity of blood impelled into them by the increaſed action in the courſe of theſe veſſels. Such an obſtruction may be ſuppoſed to happen in every caſe of an increaſed impetus of the blood; but it is probable, that, in the caſe of inflammation, there is alſo a preternatural reſiſtance to the free paſſage of the fluids.

CCXLIII.

From the doctrine of fever, we are led to believe, that an increaſed action of the heart and arteries is not ſupported for any length of time by any other means than a ſpaſm affecting the extreme veſſels; and that the ſame ſpaſm takes place in inflammation, ſeems likely, becauſe that every conſiderable inflammation is introduced by a cold ſtage, and is accompanied with that and other circumſtances of pyrexia. It ſeems alſo probable, that ſomething analogous to this occurs even in the caſe of thoſe inflammations which appear leſs conſiderable and to be purely topical.

CCXLIV.

From all this, the nature of inflammation may in many caſes be explained in the following manner. Some cauſes of inequality in the diſtribution of the blood may throw an unuſual quantity of it upon particular veſſels, to which it muſt neceſſarily prove a ſtimulus. But, further, it is probable, that, to relieve the congeſtion, the *vis medicatrix naturæ* increaſes ſtill more the action of theſe veſſels; and which, as in all other febrile diſeaſes, it effects by the formation of a ſpaſm on their extremities.

CCXLV.

A ſpaſm of the extreme arteries, ſupporting an increaſed action in the courſe of them, may therefore be conſidered as the proximate cauſe of inflammation; at leaſt, in all caſes not ariſing from direct ſtimuli applied; and even in this caſe the ſtimuli may be ſuppoſed to produce a ſpaſm of the extreme veſſels.

CCXLVI.

That, in inflammation, there is the concurrence of a conſtriction of the extreme veſſels, with an increaſed action in the other parts of them, ſeems probable, from the conſideration of Rheumatiſm. This is a ſpecies of inflammation which is often manifeſtly produced, either by cold applied to over-diſtended veſſels, or by cauſes of an increaſed impetus, and over-diſtenſion in veſſels previouſly conſtricted. Hence the diſeaſe eſpecially appears at ſeaſons liable to frequent and conſiderable viciſſitudes of heat and cold.

To this we may add, that the parts of the body moſt frequently affected with inflammation, are thoſe expoſed, both to over-diſtenſion, from a change in the diſtribution of the fluids, and, at the ſame time, to the immediate action of cold. Hence, quinſis, and pneumonic inflammations, are more frequent than any others.

CCXLVII.

That a ſpaſm of the extreme veſſels takes place in inflammation, is to be further preſumed from what is at the ſame time the ſtate of the whole arterial ſyſtem. In every conſiderable inflammation, though ariſing in one part only, an affection is communicated to the whole ſyſtem, in conſequence of which an inflammation, is readily produced in other parts beſide that firſt affected. This general affection is well known among phyſicians, under the name of the DIATHESIS PHLOGISTICA. It appears moſt commonly in perſons of the moſt rigid fibres; is often manifeſtly induced by the tonic or aſtringent powers of cold; is increaſed by all tonic and ſtimulant powers applied to the body; is always attended with a hardneſs of the pulſe; and is moſt effectually taken off by the relaxing power of blood-letting. From theſe circumſtances, it ſeems probable, that the diatheſis phlogiſtica conſiſts in an increaſed tone, or contractility, and perhaps in an increaſed contraction of the muſcular fibres of the whole arterial ſyſtem. Such a ſtate of the ſyſtem ſeems often to ariſe, and ſubſiſt for ſome time, without the apparent inflammation of any particular part; but ſuch a ſtate of the ſyſtem renders it likely, that a ſpaſm may at the ſame time, readily ariſe in any of the extreme veſſels, and a particular inflammation be there produced. It does, however, appear alſo, that the general diatheſis frequently ariſes from inflammation begun in a particular part.

CCXLVIII.

I have thus endeavoured, in the caſe of inflammation, to explain the ſtate of the whole ſyſtem, as well as that of the part more particularly affected. The latter I have conſidered as when in its firſt formation; but after it has ſubſiſted for ſome time, various changes take place in the part affected; and of theſe I muſt now take notice.

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SECT. III.

Of the TERMINATIONS *of* INFLAMMATION.

CCXLIX.

If an inflammation be cured while the ſtate and texture of the part remain entire, the diſeaſe is ſaid to be terminated by RESOLUTION.

This happens when the previous congeſtion and ſpaſm have been in a moderate degree, and the increaſed impetus of the blood has been ſufficient to overcome the ſpaſm, to dilate the veſſels, and to remove the congeſtion, ſo that the part is reſtored to its ordinary and healthy ſtate.

A reſolution takes place alſo when the increaſed impetus of the fluids has produced an increaſed exhalation into the adjoining cellular texture, or an increaſed excretion in ſome neighbouring part, and has thereby relaxed the ſpaſm, and relieved the congeſtion, in the veſſels of the part more particularly affected.

Laſtly, A reſolution may take place, when the increaſed impetus of the blood in the whole ſyſtem occaſions an evacuation, which, though in a diſtant part, may prove ſufficient to take off the phlogiſtic diatheſis of the whole ſyſtem, and thereby relieve the congeſtion and ſpaſm of the particular part affected by inflammation.

CCL.

The tumour which appears in inflammation may be imputed in part to the congeſtion of fluids in their proper veſſels; but is owing chiefly to an effuſion of matter into the adjoining cellular texture; and, accordingly, tumours ſeldom appear but in parts adjoining to a lax cellular texture. If, in this caſe, the matter effuſed be only a larger quantity of the ordinary exhaling fluid, this, when the free circulation in the veſſels is reſtored, will be readily abſorbed, and the ſtate of the part will become the ſame as before. But, if the increaſed impetus of the blood in an inflamed part, dilate the exhalent veſſels to ſuch a degree, that they pour out an entire ſerum, this will not be ſo readily reabſorbed: and, from the experiments of Sir John Pringle, and eſpecially from thoſe of Mr. Gaber, *Miſcell. Taurin.* Vol. II. we learn, that the ſerum, under ſtagnation, may ſuffer a particular change, by having the gluten preſent in it changed into a white, opaque, moderately viſcid, mild liquor, which we name PUS. When this change takes place in the inflamed part, as it is at the ſame time attended with an abatement of the redneſs, heat, and pain, which before diſtinguiſhed the inflammation, ſo the diſeaſe is ſaid to be terminated by SUPPURATION; and an inflamed part, containing a collection of pus, is called an ABSCESS.

CCLI.

In inflammation, the tendency of it to ſuppuration may be diſcovered, by the long continuance of the inflammation, without the ſymptoms of reſolution; by ſome remiſſion of the pain of diſtenſion; by the pain becoming of a throbbing kind, more diſtinctly connected with the pulſation of the arteries; by the pulſe of the arteries being fuller and ſofter; and often by the patient's being frequently affected with cold ſhiverings. The period at which this takes place is not determined, but may ſometimes ſooner, ſometimes later. When the tendency is determined, the time neceſſary to a complete ſuppuration is different in different caſes.

When pus is completely formed, the pain in the part entirely ceaſes, and a weight is felt in it. If the collection be formed immediately under the ſkin, the tumour becomes pointed, the part becomes ſoft, and the fluctuation of the fluid within can commonly be perceived; while, at the ſame time, for the moſt part, the redneſs of the ſkin formerly prevailing is very much gone.

CCLII.

In abſceſſes, while the pus is formed of one part of the matter which had been effuſed, the other and thinner parts are reabſorbed, ſo that, in the abſceſs, when opened, a pus alone appears. Thus pus, however,

ever, is not the converted gluten alone: for the converſion of this being the effect of a particular fermentation, which may affect the ſolid ſubſtance of the part, and perhaps every ſolid of animal bodies; ſo it moſt readily, and particularly, affects the cellular texture, eroding much of it, which thereby becomes a part of the pus. It generally happens alſo, that ſome of the ſmaller red veſſels are eroded, and thereby ſome red blood often appears mixed with the pus in abſceſſes. Upon the whole, the internal ſurface of an abſceſs is to be conſidered as an ulcerated part.

CCLIII.

This account of ſuppuration explains, why an abſceſs, when formed, may either ſpread into the cellular texture of the neighbouring parts; or, by eroding the incumbent teguments, be poured out upon the ſurface of the body, and produce an open ulcer.

CCLIV.

We have here given the idea of an abſceſs as a collection of matter following inflammation; but the term has been applied to every collection of matter effuſed, and changed by ſtagnation in an encloſed cavity.

The matter of abſceſſes, and of the ulcers following them, is various, according to the nature of what is effuſed, and which may be,

1. A matter thinner than ſerum.
2. An entire and pure ſerum.
3. A quantity of red globules.
4. A matter furniſhed by particular glands ſeated in the part.
5. A mixture of matters from different ſources, changed by peculiar fermentation.

It is the ſecond only which affords a proper pus; the effuſion whereof, whether in ſuppurating parts or ulcers, ſeems to be the peculiar effect of an inflammatory ſtate of the veſſels; and for this reaſon it is, that, when ulcers do not produce a proper pus, a circumſtance always abſolutely neceſſary to their healing, we, in many caſes, bring the ulcers to a ſtate of proper ſuppuration, by the application of ſtimulants exciting inflammation, ſuch as balſams, mercury, copper, &c.

CCLV.

When the matter effuſed into the cellular texture of an inflamed part, is tainted with a putrid ferment, this produces, in the effuſed matter, a ſtate approaching more or leſs to that of putrefaction. When this is in a moderate degree, and affects only the fluids effuſed, with the ſubſtance of the cellular texture, the part is ſaid to be affected with GANGRENE; but if the putrefaction affect alſo the veſſels and muſcles of the part, the diſeaſe is ſaid to be a SPHACELUS.

CCLVI.

A gangrene, and its conſequences, may ariſe from a putrid ferment diffuſed in the maſs of blood, and poured out with the ſerum effuſed, which it operates upon more powerfully while the ſerum is ſtagnant, and retained in the heat of the body: but it may alſo ariſe from the peculiar nature of the matter effuſed being diſpoſed to putrefaction; as particularly ſeems to be the caſe of the red globules of the blood effuſed in a large quantity. In a third manner alſo, a gangrene ſeems frequently to ariſe from the violent excitement of the inflammation deſtroying the tone of the veſſels; whereby the whole fluids ſtagnate, and run into putrefaction, which taking place in any degree, deſtroys ſtill further the tone of the veſſels, and ſpreads the gangrene.

CCLVII.

In inflammation, the tendency to gangrene may be apprehended from an extreme violence of pain and heat in the inflamed part, and from a great degree of pyrexia attending the inflammation.

The actual coming on of gangrene may be perceived, by the colour of the inflamed part changing from a clear to a dark red; by bliſters ariſing upon the part; by the part becoming ſoft, flaccid, and inſenſible; and by the ceaſing of all pain while theſe appearances take place.

As the gangrene proceeds, the colour of the part becomes livid, and by degrees, quite black; the heat of the part entirely ceaſes; the ſoftneſs and flaccidity of the part increaſe; it loſes its conſiſtence, exhales a cadaverous ſmell, and may then be conſidered as affected with ſphacelus.

CCLVIII.

Gangrene is thus a *third* manner in which inflammation terminates: and the ſchools have commonly marked a *fourth* termination of inflammation; which is, by a ſcirrhus, or an indolent hardneſs of the part formerly affected with inflammation. This, however, is a rare occurrence, and does not ſeem to depend ſo much upon the nature of inflammation, as upon the circumſtances of the part affected It is in glandular parts chiefly that ſcirrhoſity is obſerved; and it is probably owing to the parts readily admitting a ſtagnation of the fluids. I have obſerved, that inflammation ſeldom induced ſcirrhus; but that this more commonly ariſes from other cauſes; and when inflammation ſupervenes, which it is ſooner or later apt to do, it does not ſo commonly increaſe as change the ſcirrhoſity into ſome kind of abſceſs. From theſe conſiderations, it does not ſeem neceſſary to take any further notice of ſcirrhus as a termination of inflammation.

CCLIX.

There are, however, ſome other terminations of inflammation not commonly taken notice of, but now to be mentioned.

One is, by the effuſion of a portion of the entire maſs of blood, either by means of rupture or of anaſtomoſis into the adjoining cellular texture. This happens eſpecially in inflammations of the lungs, where the effuſed matter, by compreſſing the veſſels, and ſtopping the circulation, occaſions a fatal ſuffocation; and this is perhaps the manner in which pneumonic inflammation moſt commonly proves fatal.

CCLX.

Another kind of termination is, that of certain inflammations on the ſurface of the body, when there is poured out under the cuticle a fluid, which being too groſs to paſs through its pores, therefore ſeparates it from the ſkin, and raiſes it up into the form of a veſicle containing the effuſed fluid; and by which effuſion the previous inflammation is taken off.

CCLXI.

Beſide theſe already mentioned, I believe there is ſtill another manner in which inflammation terminates. When the internal parts are affected with inflammation, there ſeems to have been almoſt always upon their ſurface an exudation, which appears partly as a viſcid concretion upon their ſurface, and partly as a thin ſerous fluid effuſed into the cavities in which the inflamed viſcera are placed. Though we have become acquainted with theſe appearances only, as very conſtantly accompanying thoſe inflammations which have proved fatal, it is however probable, that like circumſtances may have attended thoſe which were terminated by reſolution, and may have contributed to that event. It is in favour of this ſuppoſition that there are inſtances of pneumonic inflammation terminating in a hydrothorax.

SECT.

SECT. IV.

OF THE REMOTE CAUSES OF INFLAMMATION.

CCLXII.

The remote cauſes of inflammation may be reduced to five heads.

1. The application of ſtimulant ſubſtances; among which are to be reckoned the action of fire, or burning.

2. External violence operating mechanically in wounding, bruiſing, compreſſing, or overſtretching the parts.

3. Extraneous ſubſtances lodged in any part of the body, irritating by their chemical acrimony or mechanical form, or compreſſing by their bulk or gravity.

4. Cold, in a certain degree, not ſufficient immediately to produce gangrene.

5. An increaſed impetus of the blood determined to a particular part.

It will not be difficult to underſtand how theſe remote cauſes, ſingly, or in concurrence, produce the proximate cauſe of inflammation.

CCLXIII.

It does not appear, that, in different caſes of inflammation, there is any difference in the ſtate of the proximate cauſe, except in the degree of it; and though ſome difference of inflammation may ariſe from the difference of the remote cauſes, yet this is not neceſſary to be taken notice of here; becauſe the different appearances which attend different inflammations may be referred, for the moſt part, to the difference of the part affected, as will appear when we ſhall conſider the ſeveral genera and ſpecies marked in the Noſology. When I come to treat of theſe, I ſhall find a more a more proper occaſion for taking notice of the different ſtates of the proximate, or of the differences of the remote cauſe, than by treating of them in general here.

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SECT. V.

OF THE CURE OF INFLAMMATION.

CCLXIV.

The indications of cure in inflammation are different, according as it may ſtill be capable of reſolution, or may have taken a tendency to the ſeveral other terminations above mentioned. As the tendency to theſe terminations is not always immediately evident, it is always proper, upon the firſt appearance of inflammation, to attempt the cure of it by reſolution. For this purpoſe, the indications of cure are,

1. To remove the remote cauſes, when they are evident, and continue to operate.

2. To take off the phlogiſtic diatheſis affecting either the whole ſyſtem, or the particular part.

3. To take off the ſpaſm of the particular part, by remedies applied either to the whole ſyſtem, or to the part itſelf.

CCLXV.

The means of removing the remote cauſes will readily occur, from conſidering the particular nature and circumſtances of the different kinds. Acrid matters muſt be removed, or their action muſt be prevented, by the application of correctors or demulcents*.

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* If the matter cauſing the inflammation be an acid, then the application of an alkaline ſubſtance will be proper: If, on the contrary, the inflammation be produced by an alkali, then an acid muſt be applied. In many caſes, however, the acrid ſubſtances cauſing inflammation are neither alkaline nor acid; and, in ſuch caſes, or

Compreſſing and overſtretching powers muſt be taken away; and, from their ſeveral circumſtances, the means of doing ſo will be obvious.

CCLXVI.

The means of taking off the phlogiſtic diatheſis of the ſyſtem, are the ſame with thoſe for moderating the violence of reaction in fever, which are mentioned and treated of from cxxvii to cxlix. and therefore need not be repeated here. I only obſerve, that, in the uſe of thoſe remedies, there is leſs occaſion for any reſerve than in many caſes of fever; and more particularly, that topical bleedings* are here particularly indicated and proper.

CCLXVII.

The means of taking off the ſpaſm of the particular part are nearly the ſame as thoſe mentioned above, for taking off the ſpaſm of the extreme veſſels in the caſe of fever, and which are treated of from cl. to cc. Only it is obſerved here, that ſome of theſe are here eſpecially indicated, and that ſome of them are to be directed more particularly to the part eſpecially affected: the management of which will be more properly conſidered when we ſhall treat of particular inflammations§.

CCLXVIII

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when we cannot find a proper corrector, we muſt uſe demulcents, which by their obtunding quality, ſheath the acrimony, or defend the parts to which they are applied from being irritated or corroded.

[*] The advantages of topical bleedings, in moſt caſes of local inflammation, are very great. They may be performed by cupping, or what is in many caſes more preferable, by leeches. Cupping acts ſometimes as a ſtimulus, eſpecially on parts that are tendinous or fleſhy, or where the the cellular ſubſtance is thin, and thus frequently increaſes the inflammation which we would wiſh to reſolve.

[§] The reſolution of an inflamed part is conſiderably aſſiſted by the application of diſcutients; and in moſt caſes, when the general ſyſtem is not affected, theſe diſcutients alone frequently ſucceed in diſſolving an incipient phlegmon. Solutions of lead in vinegar are the applications which the beſt modern practitioners generally

CCLXVIII.

When a tendency to ſuppuration (ccli.) is diſtinctly perceived, as we ſuppoſe it to depend upon the effuſion

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approve. Goulard's extract was ſuppoſed by the vulgar to be a new remedy; and his panegyric on it tended, in a conſiderable degree, to render the uſe of lead more univerſal than it had been before his time. There are however, many weighty objections againſt the formula uſed by that gentleman; the chief one is, that on account of the different ſtrength of the vinegar employed, and of the degree of heat uſed in the proceſs, we can never accurately aſcertain the quantity of lead diſſolved in the acid; and conſequently the efficacy of this preparation muſt be uncertain. The Saccharum Saturni, which is always of the ſame ſtrength, is therefore preferable to Goulard's extract; and as vinegar is a powerful diſcutient itſelf, it has been uſual to add a quantity of vinegar to the ſolution of the ſugar of lead in diſtilled water. The following proportions have been found in general to be the beſt:

℞. Sacchar. Saturn. ℥i.
Acet. Gallic. opt. ℥iv.
Aq. font. diſtillatæ ℥xxxii.
M.

In the application of this ſolution, it is of great conſequence that the parts affected ſhould be continually moiſtened with it. Poultices made of freſh bread crumb, and as much of the above ſolution as is neceſſary, are in general preferable to any other mode of applying it; but it ſometimes happens that the inflamed part is ſo extremely painful and tender, as not to bear the great weight of a poultice; and in ſuch caſes we muſt have recourſe to pieces of ſoft linen, moiſtened with the ſolution. Both theſe applications, viz. poultices, or wet pledgets, muſt always be applied cold, and be frequently renewed when they become warm, hard, or ſtiff. This is the moſt approved method of applying lead for the purpoſe of reſolving inflammations; yet it frequently happens that practitioners meet with patients whoſe prepoſſeſſions for a popular remedy are ſo great that there is no perſuading them from uſing it. The method of making Goulard's extract and Vegeto-Mineral Water are therefore ſubjoined:

Take Litharge of Gold one pound,
French White-Wine Vinegar a quart,

Boil them in an earthen veſſel, on a ſlow fire, for an hour and an half, conſtantly ſtirring them with a wooden ſpatula, and, when cold, pour off the clear liquor, which muſt be kept in well ſtopped glaſs phials. The Vegeto-Mineral water is made by adding a hundred drops of the above extract to a quart of water, and four tea-ſpoon fulls of French brandy.

fuſion of a fluid which cannot be eaſily reabſorbed, ſo it becomes neceſſary that this fluid be converted into pus, as the only natural means of obtaining its evacuation: and as the effuſion is, perhaps, ſeldom made without ſome rupture of the veſſels, to the healing of which a pus is abſolutely neceſſary; ſo, in the caſe of a tendency to ſuppuration, the indication of cure always is, to promote the production of a perfect pus as quickly as poſſible.

CXLXIX.

For this purpoſe, various remedies, ſuppoſed to poſſeſs a ſpecific power, have been propoſed; I can perceive no ſuch power in any of them; and, in my opinion, all that can be done is, to favour the ſuppuration by ſuch applications as may ſupport a proper heat in the part, as, by ſome tenacity, may confine the perſpiration of the part, and as, by an emollient quality, may weaken the coheſion of the teguments, and favour their eroſion*.

As,

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* Poultices of various kinds have been recommended for this purpoſe. It is, however, of little conſequence what their ingredients are, provided they be emollient, and applied warm. The white bread pultice is in common uſe, and anſwers in general very well; the addition of a little oil keeps it from becoming hard, and is at the ſame time ſerviceable as an emollient. A poultice of bruiſed lintſeed well boiled with milk and water is ſtrongly recommended by ſome writers, and indeed not without reaſon, on account of its very great emollient quality. As heat is abſolutely neceſſary for the production of matter in tumours, it is of great conſequence that the poultices ſhould not be ſuffered to cool on the part, and that they ſhould be often renewed. Mr. Bell has given excellent directions for applying poultices, with the intention of promoting ſuppuration. Warm fomentations and poultices, ſays that rational practitioner, ‘ are the means uſually employed for the application of heat ‘ to an inflamed part; and, when theſe are regularly and frequently ‘ renewed, nothing, it is probable, can more effectually anſwer the ‘ purpoſe. But in the ordinary manner in which they are applied, ‘ and as the cataplaſms are renewed only once, or, at moſt, twice ‘ a day, they muſt always, it is imagined, do more harm than good. ‘ For as ſoon as the degree of heat, they at firſt poſſeſſed, is diſſipated, the moiſture kept up by them, with the conſequent evaporation that enſues, muſt always render the part much colder than if it

CCLXX.

As, in the caſe of certain effuſions, a ſupuration is not only unavoidable, but deſirable, it may be ſuppoſed, that moſt of the means of reſolution formerly mentioned ſhould be avoided; and accordingly our practice is commonly ſo directed. But as we obſerve, on the one hand, that a certain dergee of increaſed impetus, or of the original circumſtances of inflammation, is requiſite to produce a proper ſuppuration; ſo it is then eſpecially neceſſary to avoid thoſe means of reſolution that may diminiſh too much the force of the circulation. And as, on the other hand, the impetus of the blood, when violent, is found to prevent the proper ſuppuration; ſo, in ſuch caſes, although a tendency to ſuppuration may have begun, it may be proper to continue thoſe means of reſolution which moderate the force of the circulation.

With reſpect to the opening of abſceſſes, when completely formed, I refer to the writings on ſurgery*.

CCLXXI.

'had been merely wrapped up in flannel, without the uſe of any 'ſuch application.'

'In order to receive all the advantage of ſuch remedies, the part 'affected ſhould be well fomented with flannels, preſſed out of any 'warm emollient decoction, applied as warm as the patient can eaſily bear them, continued at leaſt half an hour at once, and repeat'ed four or five times a day.

'Immediately after the fomentation is over, a large emollient 'poultice ſhould likewiſe be applied warm, and renewed every ſe'cond or third hour at fartheſt. Of all the forms recommended 'for emollient cataplaſms, a common bread and milk poultice, 'with a due proportion of butter or oil, is perhaps the moſt eligi'ble; as it not only poſſeſſes all the advantages of the others, but 'can at all times be more eaſily procured?------Treatiſe on Ulcers, 'Edition of 1787, p. 67.

* For a particular account of knowing where abſceſſes are completely formed, at what period they ought to be opened, and the manner of opening them, the reader can conſult no author preferable to Mr. Bell.

CCLXXI.

When an inflammation has taken a tendency to gangrene, that event is to be prevented by every poſſible means; and theſe muſt be different, according to the nature of the ſeveral cauſes occaſioning that tendency, as may be underſtood from what has been already ſaid of them. After a gangrene has, in ſome degree, taken place, it can be cured only by the ſeparation of the dead from the living parts. This, in certain circumſtances, can be performed by the knife, and always moſt properly, when it can be ſo done.

In other caſes, it can be done by exciting a ſuppuratory inflammation on the verge of the living part, whereby its coheſion with the dead may be every where broken off, ſo that the latter may fall off by itſelf. While this is doing, it is proper to prevent the further putrefaction of the part, and its ſpreading wider. For this purpoſe, various antiſeptic applications have been propoſed: But it appears to me, that, while the teguments are entire, theſe applications can hardly have any effect; and, therefore, that the fundamental procedure muſt be to ſcarify the part ſo as to reach the living ſubſtance, and, by the wounds made there, to excite the ſuppuration required. By the ſame inciſions alſo, we give acceſs to antiſeptics, which may both prevent the progreſs of the putrefaction in the dead, and excite the inflammation neceſſary on the verge of the living part*.

* The author mentioned in the preceding note treats this ſubject in his uſual rational manner, and with no leſs perſpicuity than judgment. Contrary to the opinion of all former writers on gangrene, he diſapproves of the ſcarifications, and the ſubſequent application of antiſeptics and ſtimulants. Mr. Bell's reaſoning againſt this practice is to the following purport; The degree of inflammation requiſite, and indeed neceſſary, for the ſeparation of the dead parts, is only very ſlight: and, when too violent, it fails to produce the deſired effect. Scarifications, and the ſubſequent application of ſtimulants, which increaſe the inflammation too much, are therefore hurtful. Again, in ſcarifying, there is a conſiderable riſk of

CCLXXII.

When the gangrene proceeds from a loſs of tone; and when this, communicated to the neighbouring parts, prevents that inflammation which, as I have ſaid, is neceſſary to the ſeparation of the dead part from the living; it will be proper to obviate this loſs of tone by tonic medicines given internally; and, for this purpoſe, the Peruvian bark has been found to be eſpecially effectual. That this medicine operates by a tonic power, I have endeavoured to prove above, (ccxiv.) and from what is ſaid in ccxv. the limitations to be obſerved in employing it may alſo be learned. When the gangrene ariſes from the violence of inflammation, the bark may not only fail of proving a remedy, but may do harm: and its power as a tonic is eſpecially ſuited to thoſe caſes of gangrene which proceed from an original loſs of tone, as in the caſe of palſy and œdema; or to thoſe caſes of inflammation where a loſs of tone takes place, while the original inflammatory ſymptoms are removed*.

CCLXXIII.

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wounding large blood-veſſels, nerves, or tendons; beſides the diſadvantage of allowing the putreſcent fluids of the gangrene to enter more freely the ſound parts, by increaſing the ſurface of the wound. With reſpect to the application of antiſeptics, it is juſtly remarked, that although theſe medicines have the quality of preſerving dead animal ſubſtances from corruption, they by no means produce the ſame effect on living animal ſubſtances. But the concluding argument is of much greater weight, viz. that in a long courſe of extenſive practice, no advantage ever accrued from ſcarification These objections againſt promiſcuous ſcarification were firſt propoſed by Mr. Bell, in his treatiſe on ulcers, about twelve years ago; and the novelty of the opinion excited the attention of almoſt every practitioner. At preſent, however, it is univerſally adopted; and would, of itſelf, independent of the many improvements Mr. Bell has made in ſurgery, perpetuate his juſtly acquired fame.

* The bark muſt be given in theſe caſes in large quantities; and, as the pulſe is, in general, very ſmall, port wine muſt be uſed along with it. Beſide the uſe of theſe remedies, a good nouriſhing diet is abſolutely requiſite, with ſuch a quantity of ſtrong generous wine as is fully ſufficient to keep up the pulſe, and induce the neceſſary ſlight

CCLXXIII.

The other terminations of inflammation either do not admit of any treatment, except that of preventing them by the means of reſolution; or they belong to a treatiſe of ſurgery, rather than to this place.

Having thus, therefore, delivered the general doctrine, I proceed now to conſider the particular genera and ſpecies of inflammation.

It has been hinted above (cclxiii.), that the difference of inflammation ariſes chiefly from the difference of the part affected: I have therefore arranged them, as they are CUTANEOUS, VISCERAL, or ARTICULAR; and in this order they are now to be conſidered.

CHAP. II.

OF INFLAMMATION, MORE STRICTLY CUTANEOUS.

CCLXXIV.

CUTANEOUS inflammations are of two kinds, commonly diſtinguiſhed by the names of PHLEGMON and ERYSIPELAS.

Of the latter there are two caſes, which ought to be diſtinguiſhed by different appellations. When the diſeaſe is an affection of the ſkin alone, and very little of the whole ſyſtem, or when the affection of the ſyſtem is only ſymptomatical of the name of ERYTHEMA; but when the external inflammation is an exanthema, and ſymptomatical of an af- external inflammation, I ſhall give the diſeaſe the

degree of inflammation. When, indeed, the patient is extremely languid, and much reduced, the warm ſtimulating cordials, as camphire, confectio cardiaca, ſpiritus aromaticus volatilis, &c. may be uſed with advantage.

fection of the whole ſyſtem, I ſhall then name the diſeaſe ERYSIPELAS*.

CCLXXV.

It is the erythema only that I am to conſider here. For the diſtinction between Erythema and Phlegmon, I have formerly referred to the characters given of them in our Noſology. See *Synopſ. Noſolog. Meth.* Vol. II. p. 5. gen. vii. ſpec. 1. and 2. But I think it proper now to deliver the characters of them more fully and exactly here, as follows.

A Phlegmon is an inflammatory affection of the ſkin, with a ſwelling, riſing generally to a more conſiderable eminence in the middle of it; of a bright red colour; both the ſwelling and colour being pretty exactly circumſcribed; the whole being attended with a pain of diſtenſion, often of a ſtounding or throbbing kind, and frequently ending in ſuppuration.

An Erythema, Roſe, or St. Anthony's fire, is an inflammatory affection of the ſkin, with hardly any evident ſwelling; of a mixed and not very bright red colour, readily diſappearing upon preſſure, but quickly returning again; the redneſs of no regular circumſcription, but ſpreading unequally and continuing almoſt conſtantly to ſpread upon the neighbouring part; with a pain like to that from burning; producing bliſters, ſometimes of a ſmall, ſometimes of a larger ſize; and always ending in a deſquamation of the ſcarff-ſkin, ſometimes in gangrene.

This ſubject I am not to proſecute here, as properly belonging to ſurgery, the buſineſs of which I am ſeldom to enter upon in this work; and ſhall therefore obſerve only as neceſſary here, that the difference of theſe appearances ſeems to depend on the different ſeat of the inflammation. In the phlegmon, the inflammation ſeems to affect eſpecially the veſſels on the internal ſurface of the ſkin communicating with the lax ſubjacent cellular texture; whence a more copious effuſion, and that of ſerum convertible into pus, takes place. In the erythema, the inflammation ſeems to have its ſeat in the veſſels on the external ſurface of the ſkin, communicating with the rete mucoſum, which does not admit of any effuſion, but what ſeparates the cuticle, and gives occaſion to the formation of a bliſter, while the ſmaller ſize of the veſſels admits only of the effuſion of a thin fluid, very ſeldom convertible into pus.

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* The Eryſipelas is particularly deſcribed in article 696, et ſeq.

Beſides theſe differences in the circumſtances of theſe two kinds of inflammation, it is probable that they alſo differ with reſpect to their cauſes. Erythema is the effect of all kinds of acrids externally applied to the ſkin; and, when ariſing from an internal cauſe, it is from an acrimony, poured out on the ſurface of the ſkin under the cuticle. In the phlegmon an acrimony is not commonly evident.

CCLXXVI.

Theſe differences in the ſeat and cauſes of the phlegmon and erythema being admitted, it will be evident, that when an erythema affects any internal part, it can take place in thoſe only whoſe ſurfaces are covered with an epithelion, or membrane analagous to the cuticle.

CCLXXVII.

The ſame diſtinction between the ſeat and cauſes of the two diſeaſes will, as I judge, readily explain what has been delivered by practical writers, with reſpect to the cure* of theſe different cutaneous inflammations. But I ſhall not, however, proſecute this here, for the reaſon given above (cclxxv.) and, for the ſame reaſon, ſhall not ſay any thing of the variety of external inflammation, that might otherwiſe be conſidered here†.

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* The method of curing an eryſipelas is delivered in articles 708, et ſequent.

† The cure of erythema is chiefly effected by the antiphlogiſtic

CHAP. III.

OF OPHTHALMIA, OR INFLAMMATION OF THE EYE.

CCLXXVIII.

THE inflammation of the eye may be conſidered as of two kinds; according as it has its ſeat in the membranes of the ball of the eye, when I would name it Ophthalmia Membranarum; or as it has its ſeat in the ſebaceous glands placed in the tarſus, or edges of the eye-lids, in which caſe it may be termed Ophthalmia Tarsi.

Theſe two kinds are very frequently combined together, as the one may readily excite the other; but they are ſtill to be extinguiſhed according as one or the other may happen to be the primary affection, and properly as they often ariſe from different cauſes.

CCLXXIX.

The inflammation of the membranes of the eye, affects eſpecially, and moſt frequently, the adnata, appearing in a turgeſcence of its veſſels; ſo that the red veſſels which are naturally there, become not only increaſed in ſize, but there appear many more than did in a natural ſtate. This turgeſcence of the veſſels is attended with pain, eſpecially upon the motion of the ball of the eye; and this, like every other irritation applied to the ſurface of the eye, produces an effuſion of tears from the lachrymal gland.

This inflammation commonly, and chiefly, affects

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regimen already ſufficiently deſcribed. Although bleeding, purging, and the general remedies for reſolving an inflammation, will, in moſt caſes, cure an erythema, yet, as it is a diſeaſe frequently depending on a peculiar acrimony, we ſhall always find great advantage from the external uſe of emollients applied cold, or mucilaginous diluents taken internally. The diſeaſe, however, is ſeldom dangerous, and generally terminates favourably.

the adnata ſpread on the anterior part of the bulb of the eye; but uſually ſpreads alſo along the continuation of that membrane on the inſide of the palpebræ; and, as that is extended on the tarſus palpebrarum, the excretories of the ſebaceous glands opening there are alſo frequently affected. When the affection of the adnata is conſiderable, it is frequently communicated to the ſubjacent membranes of the eye, and even to the retina itſelf, which thereby acquires ſo great a ſenſibility, that the ſlighteſt impreſſion of light becomes painful.

CCLXXX.

The inflammation of the membranes of the eye is in different degrees, according as the adnata is more or leſs affected, or according as the inflammation is either of the adnata alone, or of the ſubjacent membranes alſo; and, upon theſe differences, different ſpecies have been eſtabliſhed, and different appellations given to them. But I ſhall not, however, proſecute the conſideration of theſe, being of opinion, that all the caſes of the Ophthalmia membranarum differ only in degree, and are to be cured by remedies of the ſame kind more or leſs employed.

The remote cauſes of Ophthalmia are many and various; as,

1. External violence, by blows, contuſions, and wounds, applied to the eyes; and even very ſlight impulſes applied, whilſt the eye lids are open, to the ball of the eye itſelf, are ſometimes ſufficient for the purpoſe.

2. Extraneous bodies introduced under the eyelids, either of an acrid quality, as ſmoke and other acrid vapours*, or of a bulk ſufficient to impede the

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* Hence Chemiſts, when ſo much employed in proceſſes where copious noxious vapours ariſe, ought to be extremely careful to avoid them as much as poſſible.

free motion of the eye-lids upon the ſurface of the eye-ball.

3. The application of ſtrong light, or even of a moderate light long continued.

4. The application of much heat, and particularly of that with moiſture.

5. Much exerciſe of the eyes in viewing minute objects.

6. Frequent intoxication.

7. Irritation from other and various diſeaſes of the eyes.

8. An acrimony prevailing in the maſs of blood, and depoſited in the ſebaceous glands on the edges of the eye-lids.

9. A change in the diſtribution of the blood, whereby either a more than uſual quantity of blood, and with more than uſual force, is impelled into the veſſels of the head, or whereby the free return of the venous blood from the veſſels of the head is interrupted.

10. A certain conſent of the eyes with the other parts of the ſyſtem, whereby from a certain ſtate of theſe parts, either a ſimultaneous, or an alternating affection of the eyes, is produced.

CCLXXXI.

The proximate cauſe of Ophthalmia is not different from that of inflammation in general; and the different circumſtances of Ophthalmia may be explained by the difference of its remote cauſes, and by the different parts of the eye which it happens to affect. This may be underſtood from what has been already ſaid; and I ſhall now therefore proceed to conſider the CURE.

CCLXXXII.

In the cure of Ophthalmia, the firſt attention will be always due to the removing of the remote cauſes, and the various means neceſſary for this purpoſe will be directed by the conſideration of theſe cauſes enumerated above.

The Ophthalmia membranarum requires the remedies proper for inflammation in general; and, when the deeper-ſeated membranes are affected, and eſpecially when a pyrexia is preſent, large general bleedings may be neceſſary. But this is ſeldom the caſe; as the Ophthalmia, for the moſt part, is an affection purely local, accompanied with little or no pyrexia. General bleedings, therefore, from the arm or foot, have little effect upon it; and the cure is chiefly to be obtained by topical bleedings, that is, blood drawn from veſſels near the inflamed part; and opening the jugular vein or the temporal artery, may be conſidered as in ſome meaſure of this kind. It is commonly ſufficient to apply a number of leeches* round the eye; and it is perhaps better ſtill to draw blood from the temples, by cupping and ſcarifying†. In many caſes, a very effectual remedy is, that of ſcarifying the internal ſurface of the inferior eye-lid: and more ſo ſtill, is cutting the turgid veſſels upon the adnata itſelf‡.

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* Ten or twelve may be applied at once, and, when many are employed together, they generally produce a better effect, than if fewer be employed repeatedly: That is, twelve at once are more efficacious than three at a time repeated four times a day.

† Cupping and ſcarifying the temples ought to be performed with very great caution, becauſe of the numerous ramifications of conſiderable branches of arteries in thoſe places.

‡ Theſe operations require great nicety. For the particular method of performing them, the reader is referred to the writers on ſurgery.

Much harm enſues from theſe operations when injudiciouſly performed; they ought therefore to be refrained from, except when a very ſkilful and expert ſurgeon can be procured. They are ſeldom ſerviceable, except they be repeated ſeveral times. Cutting the veſſels of the adnata is perhaps the beſt preventive of an opacity of the Cornea that we know; and, wherever there is the leaſt tendency towards an opacity, the practice ſhould be put in execution. The operation ought to be repeated daily for two, three, or four weeks, or even longer, if a cure is not accompliſhed ſooner.

CCLXXXIII.

Beſides blood-letting, purging, as a remedy ſuited to inflammation in general, has been conſidered as peculiarly adapted to inflammations in any of the parts of the head, and therefore to Ophthalmia; and it is ſometimes uſeful: but, for the reaſons given before with reſpect to general bleeding, purging in the caſe of Ophthalmia does not prove uſeful in any degree in proportion to the evacuation excited.

CCLXXXIV.

For relaxing the ſpaſm in the part, and taking off the determination of the fluids to it, bliſtering near the part has commonly been found uſeful*.

CCLXXXV.

Electrical ſparks taken from the eye will often ſuddenly diſcuſs the inflammation of the adnata; but the effect is ſeldom permanent, and even a frequent repetition ſeldom gives an entire cure.

CCLXXXVI.

Ophthalmia, as an external inflammation, admits of topical applications. All thoſe, however, that increaſe the heat and relax the veſſels of the part, prove commonly hurtful; and the admiſſion of cold air to the eye, the proper application of cold water immediately to the ball of the eye, and the application of various cooling and aſtringent medicines, which at the ſame time do not produce much irritation, prove generally uſeful: even ſpiritous liquors, employed in moderate quantity, have often been of ſervice*.

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* The part where bliſters are uſually applied in ophthalmia are behind the ear, or the nape of the neck. The bliſters ought to be kept open by the ſubſequent application of the mild bliſtering ointment, if they aſſume appearances of healing.

Setons in the neck are ſometimes recommended; but, where ſpeedy relief is required, they are of little ſervice, becauſe they ſeldom begin to diſcharge till the expiration of a few days; beſides they are extremely troubleſome to the patient; and, if the phlogiſtic diatheſis be conſiderable, they ſometimes become ſo exceedingly inflamed as to produce many diſagreeable circumſtances that might have been avoided.

CCLXXXVII.

In the cure of Ophthalmia, much care is requiſite to avoid all irritation, particularly that of light; and the only ſafe and certain means of doing this, is by confining the patient to a very dark chamber.

CCLXXXVIII.

Theſe are the remedies of the Ophthalmia membranarum; and in the Ophthalmia tarſi, ſo far as it is produced by the Ophthalmia membranarum, the ſame remedies may be neceſſary. As, however, the Ophthalmia tarſi may often depend upon an acrimony depoſited in the ſebaceous glands of the part, ſo it may require various internal remedies according to the nature of the acrimony in fault; for which I muſt refer to the conſideration of ſcrophula, ſyphilis, or other diſeaſes with which this Ophthalmia may be connected; and when the nature of the acrimony is not aſcertained, certain remedies, more generally adapted to the evacuation of acrimony, ſuch, for inſtance, as mercury, may be employed†.

CCLXXXIX.

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* A ſolution of a ſcruple of ſugar of lead in four ounces of diſtilled water is a very effectual application; ſome authors recommend equal parts of white vitriol and ſugar of lead diſſolved in diſtilled water. Theſe collyria, as they are called, do infinite miſchief if they are two ſtrong. If, therefore, the patient complain of the leaſt ſmarting on their application, it will be neceſſary to dilute them with the additon of more diſtilled water. They ought to be applied cold, and pledgets moiſtened with them ought to be frequently renewed when they grow hot or dry. An additional direction may be added, viz. that the ſolution of ſaccharum ſaturni be always made in diſtilled water, eſpecially when it is to be uſed as a collyrium, becauſe the leaſt impregnation of any mineral acid, however combined, decompoſes the ſugar of lead.

Cold poultices of raſped raw potatoes or turnips are ſometimes very efficacious. They may be applied in a fine muſlin bag, and ought to be renewed whenever they grow warm.

† If the ophthalmia be veneral, mercury is the only remedy, and external applications have little effect. If ſcrophula is the cauſe,

CCLXXXIX.

In the Ophthalmia tarſi, it almoſt conſtantly happens, that ſome ulcerations are formed on the tarſus. Theſe require the application of mercury or copper, either of which may by itſelf ſometimes entirely cure the affection; and theſe may even be uſeful when the diſeaſe depends upon a fault of the whole ſyſtem.

CCXC.

Both in the Ophthalmia membranarum, and in the Ophthalmia tarſi, it is neceſſary to obviate that gluing or ſticking together of the eye-lids which commonly happens in ſleep; and this may be done by inſinuating a little of any mild unctuous medicines, of ſome tenacity, between the eye-lids before the patient ſhall go to ſleep*.

CHAP. IV.

OF PHRENSY, OR PHRENITIS.

CCXCI.

THIS diſeaſe is an inflammation of the parts contained in the cavity of the cranium; and may affect either the membranes of the brain, or the ſubſtance of the brain itſelf. Noſologiſts have apprehended, that theſe two caſes might be diſtinguiſhed by different ſymptoms, and therefore by different appellations:

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relief is often ſpeedily procured by an application of the Coagulum a luminis, or the unguentum citrinum, now called unguentum hydrargyri nitratum in the London Pharmacopœia. The unguentum tutiæ has been uſed in many caſes with advantage, as has alſo the unguentum ceruſſæ acetatæ. But theſe topical applications never effect a permanent cure.

* Hog's lard, freſh preſſed lintſeed-oil, or oil of almonds, anſwer this intention very well, or the unguentum ſpermatis ceti, of the London Pharmacopœia.

lations: but this does not ſeem to be confirmed by obſervation and diſſection; and therefore I ſhall treat of both caſes under the title of Phrenſy, or Phrenitis.

CCXCII.

An idiopathic phrenſy is a rare occurrence, a ſympathic more frequent; and the aſcertaining either the one or the other is, upon many occaſions, difficult. Many of the ſymptoms by which the diſeaſe is moſt commonly judged to be preſent have appeared when, from certain conſiderations, it was preſumed, and even from diſſection it appeared, that there had been no internal inflammation; and, on the other hand, diſſections have ſhown, that the brain had been inflamed, when few of the peculiar ſymptoms of phrenſy had before appeared*.

CCXCIII.

The ſymptoms by which this diſeaſe may be moſt certainly known are, a vehement pyrexia, a violent deep-ſeated head-ach, a redneſs and turgeſcence of the face and eyes, an impatience of light or noiſe, a conſtant watching and a delirium impetuous and furious. Some noſologiſts have thought theſe ſymptoms peculiar to an inflammation of the membranes, and that the inflammation of the ſubſtance of the brain was to be diſtinguiſhed by ſome degree of coma attending it. It was for this reaſon that in the Noſology I added the Typhomania to the character of Phrenitis; but, upon further reflection, I find no proper foundation for this; and, if we paſs from the characters above delivered, there will be no means of fixing the variety that occurs.

I am here, as in other analogous caſes, of opinion, that the ſymptoms above mentioned of an acute inflammation, always mark inflammations of membranous parts; and that an inflammation of the paronchyma or ſubſtance of viſcera, exhibits, at leaſt commonly, a more chronic affection.

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* This ſentence is very obſcure; the Author meant to ſay, that the diagnoſtic ſymptoms of this diſeaſe are uncertain.

CCXCIV.

The remote cauſe of phrenſy, are all thoſe which directly ſtimulate the membranes or ſubſtance of the brain; and particularly all thoſe which increaſe the impetus of the blood in the veſſels of the brain. Among theſe the expoſure of the naked head to the direct rays of a very warm ſun, is a frequent cauſe. The paſſions of the mind, and certain poiſons, are amongſt the remote cauſes of phrenſy; but in what manner they operate is not well underſtood.

CCXCV.

The cure of phrenſy is the ſame with that of inflammation in general; but in phrenſy the moſt powerful remedies are to be immediately employed. Large and repeated blood-letting is eſpecially neceſſary; and the blood ſhould be drawn from veſſels as near as poſſible to the part affected. The opening of the temporal artery has been recommended, and with ſome reaſon: but the practice is attended with inconvenience; and I apprehend that opening the jugular veins may prove more effectual; but, at the ſame time, it will be generally proper to draw blood from the temples by cupping and ſcarifying*.

CCXCVI.

It is probable, that purging, as it may operate by revulſion, may be of more uſe than in ſome other inflammatory affections.

For

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* Practitioners have in general admitted two kinds of phrenſy. viz. the idiopathic or true phrenſy, and the ſymptomatic. The former is what the Author deſcribes in the text; and, and as he has omitted to deſcribe the latter, which in article 292, he acknowledges to be the more frequent of the two, I ſhall enumerate its ſymptoms.

The ſymptomatic phrenſy is conſtantly preceded by ſome very acute inflammatory fever. Its approach may be ſuſpected by a ſuppreſſion of the excretions, by colourleſs ſtools, by a black, dry, and rough tongue, by pale and watery urine, which ſometimes has black

For the ſame purpoſe of revulſion, warm pediluvia are a remedy; but, at the ſame time ſomewhat ambiguous. The taking off the force of the blood in the veſſels of the head by an erect poſture, is generally uſeful.

CCXCVII.

Shaving of the head is always proper and neceſſary for the admiſſion of other remedies. Bliſtering is commonly uſeful in this diſeaſe, but chiefly when applied near the part affected*.

CCXVIII.

or dark brown clouds floating in it, by a deſire but inability to ſleep, by picking the bed-clothes, by the eyes appearing fierce, and the veſſels of the albuginea becoming turged, and by a few drops of blood diſtilling from the noſe.

When moſt of theſe ſymptoms appear in inflammatory fevers, we juſtly apprehend an attack of the phrenſy, and ought to have immediate recourſe to ſuch remedies as will leſſen its violence, or altogether prevent its acceſs. Large bleedings, if the pulſe permits muſt be made on the lower extremities, emollient glyſters are to be frequently injected, laxatives adminiſtered, fometimes applied to the feet and legs, cupping glaſſes applied to the thighs, and the patient muſt be forced to drink plentifully, for he is ſeldom thirſty in theſe caſes, although his tongue be parched. Beſide theſe general remedies, peculiar attention muſt be paid to the primary diſeaſe; and the treatment of the ſymptomatic phrenſy will vary according to the nature of the diſeaſe by which it is produced.

No part of the practice of phyſic requires more judgment and ſegacity in the practitioner, than aſcertaining the proper mode of treating the ſymptomatic phrenſy in different fevers. To enter fully into the ſubject, would require more room than theſe notes allow. I can only therefore recommend the young practitioner to pay great attention to it. He will find many uſeful practical directions for the treatment of theſe caſes, in moſt of the medical writers, both ancient and modern, eſpecially Sydenham and Van Swieten.

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* It has been uſual to apply a large bliſtering plaiſter over the whole head, and ſuffer it to remain on for eight and forty hours. This, however, hinders the application of other very powerful remedies. Shaving the head of a frantic patient is always a troubleſome operation; but the very great benefit ariſing from it renders it abſolutely neceſſary in all caſes; and the phyſician ought therefore to adviſe it on the firſt ſuſpicion of an approaching phrenſy.

CCXCVIII.

Every part of the antiphlogiſtic regimen is here neceſſary, and particularly the admiſſion of cold air. Even cold ſubſtances applied cloſe to the head, have been found ſafe and highly uſeful; and the application of ſuch refrigerants as vinegar, is certainly proper*.

CCXCIX.

It appears to me certain, that opiates are hurtful in every inflammatory ſtate of the brain; and it is to be obſerved, that, from the ambiguity mentioned in ccxcii. the accounts of practitioners, with regard to the juvantia and lædentia in this diſeaſe, are of very uncertain application.

CHAP. V.

OF THE QUINSY, OR CYNANCHE.

CCC.

THIS name is applied to every inflammation of the internal fauces; but theſe inflammations are different, according to the part of the fauces which may be affected, and according to the nature of the inflammation. In the Noſology, therefore, after giving the character of the Cynanche as a genus, I have diſtinguſhed five different ſpecies, which muſt here likewiſe be ſeparately conſidered.

SECT.

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* Many eminent practitioners have diſſuaded the uſe of theſe refrigerant applications to the newly ſhaven head; the immediate relief which the mere ſhaving generally procures ſeems to indicate the propriety of the practice: and experience has not diſcovered any material diſadvantages attending it, but on the contrary, much benefit accruing from it.

SECT. I.

OF THE CYNANCHE TONSILLARIS.

CCCI.

THIS is an inflammation of the mucous membrane of the fauces, affecting eſpecially that congeries of mucous follicles which forms the tonſils, and ſpreading from thence along the velum and uvula, ſo as frequently to affect every part of the mucous membrane.

CCCII.

The diſeaſe appears by ſome tumour, ſometimes conſiderable, and by a redneſs of the parts; is attended with a painful and difficult deglutition; with a pain ſometimes ſhooting into the ear; with a troubleſome clammineſs of the mouth and throat; with a frequent, but difficult excretion of mucus; and the whole is accompanied with a pyrexia.

CCCIII.

This ſpecies of quinſy is never contagious. It terminates frequently by reſolution*, ſometimes by ſuppuration, but hardly ever by gangrene; although in this diſeaſe ſome ſloughy ſpots, commonly ſuppoſed to be forerunners of gangrene, ſometimes appear upon the fauces.

CCCIV.

This diſeaſe is commonly occaſioned by cold externally applied, particularly about the neck. It affects eſpecially the young and ſanguine, and a diſpoſition to it is often acquired by habit; ſo that, from every conſiderable application of cold to any part of the body, this diſeaſe is readily induced. It occurs eſpecially in ſpring and autumn, when viciſſitudes of heat and cold frequently take place. The inflammation and

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* As the moſt frequent termination of this diſeaſe is by reſolution, this mode of cure muſt always be attempted, and will ſeldom fail of proving ſucceſsful.

and tumour are commonly at firſt moſt conſiderable in one tonſil; and afterwards abating in that, increaſe in the other.

CCCV.

In the cure of this inflammation, ſome bleeding may be proper; but large general bleedings will ſeldom be neceſſary. The opening of the ranular veins ſeems to be an inſignificant remedy; and leeches ſet upon the external fauces are of more efficacy.

CCCVI.

At the beginning of the diſeaſe, full vomiting has been frequently found to be of great ſervice*.

CCCVII.

This inflammation may be often relieved by moderate aſtringents, and particularly by acids applied to the inflamed parts†. In many caſes, however, nothing has been found to give more relief than the vapour of warm water received into the fauces by a proper apparatus.

CCCVIII.

The other remedies of this diſeaſe are rubefacient or bliſtering medicines, applied externally to the neck; and, with theſe, the employment of antiphlogiſtic purgatives‡, as well as every part of the antiphlogiſtic regimen, excepting the application of cold.

CCCIX.

This diſeaſe, as we have ſaid, often terminates by reſolution,

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[*] The formula of an emetic may be ſeen in the note at par. 185, laſt word.

[†] Various have been the opinions of phyſicians reſpecting the kind of gargles proper in theſe caſes. A pint of tincture of roſes, with two drachms of honey, has often been found ſerviceable. The following gargle is frequently uſed with ſucceſs. Boil an ounce of oak-bark, bruiſed in a quart of water, till half is evaporated, and to the ſtrained liquor add an ounce of honey of roſes, and a drachm of allum. Sage tea, with honey, is in common uſe, and frequently anſwers every purpoſe.

[‡] Glauber's ſalts anſwer the end of purges in theſe caſes very well, eſpecially if the patient drinks copiouſly during the operation.

reſolution, frequently accompanied with ſweating; which is therefore to be prudently favoured and encouraged*.

CCCX.

When this diſeaſe ſhall have taken a tendency to ſuppuration, nothing will be more uſeful, than the frequent taking into the fauces the ſteams of warm water†. When the abſceſs is attended with much ſwelling, if it break not ſpontaneouſly, it ſhould be opened by a lancet; and this does not require much caution, as even the inflammatory ſtate may be relieved by ſome ſcarification of the tonſils. I have never had occaſion to ſee any caſe requiring bronchotomy.

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* Dover's powder is an excellent ſudorific in theſe caſes. The method of giving it has been deſcribed in a former note, on par. 169, l. 11, at the word emetic. Many other ſudorific's however, are found to anſwer tolerably well, as wine-whey, whey made with dulcified ſpirit of nitre, vinegar whey, ſage tea, with ſeveral other drinks of a ſimilar kind.

The following bolus is often very efficacious, eſpecially when the patient drinks largely of ſage or balm tea.

℞. Camphor. gr. viii.
Opii pur. gr. i.
Tart. Vitriolat. ℈i.
Tere in mortario marmoreo; et adde
Confect. cardiac ʒi. vel. 9. ſ. ut fiat bolus.

Small doſes of tartar emetic taken in ſuch quantities as to produce a ſlight nauſea, without vomiting, are alſo good ſudorifics. Two table-ſpoonfuls of the following julep may be taken every half-hour till the effect be produced, drinking, at the ſame time, plentifully of ſome warm diluent.

℞. Tartar. Emetic. gr. iii.
Aq. font. ℥vii.
Syr. Papaveris rubri. ℥i.
M. f. Julap.

† Very convenient apparatus for this purpoſe are made by moſt tin-workers. Beſide the ſteam of warm water here recommended, external applications to the throat and ſides of the neck have a conſiderable effect in forwarding the ſuppuration, as warm poultices, fomentations, &c.

SECT. II.

OF THE CYNANCHE MALIGNA.

CCCXI.

THIS is a contagious diſeaſe, ſeldom ſporadic, and commonly epidemic. It attacks perſons of all ages, but more commonly thoſe in a young and infant ſtate. It attacks perſons of every conſtitution when expoſed to the contagion, but moſt readily the weak and infirm.

CCCXII.

This diſeaſe is uſually attended with a conſiderable pyrexia; and the ſymptoms of the acceſſion of this, ſuch as frequent cold, ſhiverings, ſickneſs, anxiety, and vomiting, are often the firſt appearances of the diſeaſe. About the ſame time, a ſtiffneſs is felt in the neck, with ſome uneaſineſs in the internal fauces, and ſome hoarſeneſs of the voice. The internal fauces, when viewed, appear of a deep red colour, with ſome tumour; but this laſt is ſeldom conſiderable, and deglution is ſeldom difficult or painful. Very ſoon a number of white or aſh coloured ſpots appear upon the inflamed parts. Theſe ſpots ſpread and unite, covering almoſt the whole fauces with thick ſloughs; which falling off, diſcover ulcerations. While theſe ſymptoms proceed in the fauces, they are generally attended with a coryza, which pours out a thin acrid and fetid matter, excoriating the noſtrils and lips. There is often alſo, eſpecially in infants, a frequent purging; and a thin acrid matter flows from the anus excoriating this and the neighbouring parts.

CCCXIII.

With theſe ſymptoms, the pyrexia proceeds with a ſmall, frequent, and irregular pulſe; and there occurs a manifeſt exacerbation every evening, and ſome remiſſion in the mornings. A great debility appears in the animal functions; and the ſenſorium is affected with delirium, frequently with coma.

CCCXIV.

On the ſecond day, or ſometimes later, effloreſcences appear upon the ſkin, which are ſometimes in ſmall points hardly eminent; but, for the moſt part, in patches of red colour, ſpreading and uniting ſo as to cover the whole ſkin. They appear firſt about the face and neck, and in the courſe of ſome days ſpread by degrees to the lower extremities. The ſcarlet redneſs is often conſiderable on the hands and extremities of the fingers, which feel ſtiff and ſwelled. This eruption is often irregular, as to the time of its appearance, as to its ſteadineſs, and as to the time of its duration. It uſually continues four days, and goes off by ſome deſquamation of the cuticle; but neither on its appearance, nor on its deſquamation, does it always produce a remiſſion of the pyrexia, or of the other ſymptoms.

CCC XV.

The progreſs of the diſeaſe depends on the ſtate of the fauces and of the pyrexia. When the ulcers on the fauces, by their livid and black colour, by the fetor of the breath, and by many marks of acrimony in the fluids, ſhow a tendency to gangrene, this takes place to a conſiderable degree; and, the ſymptoms of a putrid fever conſtantly increaſing, the patient dies, often on the third day, ſometimes later, but for the moſt part before the ſeventh. The acrimony poured out from the diſeaſed fauces muſt neceſſarily, in part, paſs into the pharynx, and there ſpread the infection into the œſophagus, and ſometimes through the whole of the alimentary canal, propagating the putrefaction, and often exhauſting the patient by a frequent diarrhœa.

The acrid matter poured out in the fauces being again abſorbed, frequently occaſions large ſwellings of the lymphatic glands about the neck, and ſometimes to ſuch a degree as to occaſion ſuffocation.

It is ſeldom that the organs of reſpiration eſcape entirely unhurt, and very often the inflammatory affection is communicated to them. From diſſections it appears, that, in the Cynanche maligna, the larynx and trachea are often affected in the ſame manner as in the Cynanche trachealis; and it is probable, that, in conſequence of that affection, the Cynanche maligna often proves fatal by ſuch a ſudden ſuffocation as happens in the proper Cynanche trachealis; but there is reaſon to ſuſpect, that upon this ſubject diſſectors have not always diſtinguiſhed properly between the two diſeaſes.

CCCXVI.

Theſe are the ſeveral fatal terminations of the Cynanche maligna; and they do not always take place. Sometimes the ulcers of the fauces are of a milder nature; and the fever is more moderate, as well as of a leſs putrid kind. And when, upon the appearance of the effloreſcence on the ſkin, the fever ſuffers a remiſſion; when the efflorencence continues for three or four days, till it has ſpread over the whole body, and then ends by a deſquamation, giving a further remiſſion of the fever; this often entirely terminates, by gentle ſweats, on or before the ſeventh day; and the reſt of the diſeaſe terminates in a few days more, by an excretion of ſloughs from the fauces; while ſleep, appetite, and the other marks of health return.

From what is ſaid in this and the preceding paragraph, the prognoſtics in this diſeaſe may be readily learned.

CCCXVII.

In the cure of this diſeaſe, its ſeptic tendency is chiefly to be kept in view. The debility, with which it is attended, renders all evacuations by bleeding and purging improper, except in a few inſtances where the debility is leſs, and the inflammatory ſymptoms more conſiderable. The fauces are to be preſerved from the effects of the acrid matter poured out upon them, and are therefore to be frequently waſhed out by antiſceptic gargles* or injections; and the ſeptic tendency of the whole ſyſtem ſhould be guarded againſt and corrected by internal antiſeptics, eſpecially by the Peruvian bark given in ſubſtance, from the beginning, and continued through the courſe of the diſeaſe§. Emetics

tics

* When the violence of the ſymptoms is moderate, and the ulceration ſlight, ſage tea, or tea made of roſe leaves, or both together may be ſufficient. A gargle made of a pint of ſage and roſe tea, three ſpoonfuls of vinegar, and one ſpoonful of honey, has been found as efficacious as any of the ſharper antiſceptics with the mineral acids. Dr. Fothergill's gargle is,

℞. Decoct. pectoral. ℥xii. cui inter coquendum. adde
Rad. contrayerv. contus. ℥ſs.
Liquori colato admiſce
Acet. vin. alb. ℥ii.
Tinct. myrrh. ℥i.
Mel. opt. ʒvi.

But he often uſed it with a drachm of the Mel. Egyptiacum diſſolved in two ounces of it.

The Mel. Egyptiacum is a very harſh application, and ought to be cautiouſly uſed. If the ſloughs caſt off ſo ſlowly as to require a powerful application, it is better practice to touch them with Mel. Egyptiacum by means of an armed probe, than to uſe gargles, in which it is an ingredient. In this diſeaſe, ſtrict attention muſt be given to the uſe of gargles and injections for the throat, becauſe the cure ſeems to depend in part on procuring a diſcharge from the glands of the fauces which theſe gargles induce, and alſo becauſe they are the only means of retarding the progreſs of the ulcers.

§ The quantity of bark given ought to be very conſiderable, viz. as much as the ſtomach and inteſtines can poſſibly bear; half a drachm or two ſcruples every hour, with a glaſs of good port wine. A ſcruple of confectio cardiaca, joined with each doſe of the bark, has a double effect of making the bark leſs nauſeous, and of preventing, in ſome meaſure, a tendency to a diarrhœa, but opium is a ſovereign remedy for removing this ſymptom when it is actually preſent.

In adminiſtering the bark, great care muſt be taken to avoid a diarrhœa, which is a very dangerous ſymptom in any period of the diſeaſe, but eſpecially after the third or fourth day, when the patient is in a conſiderable ſtate of debility.

Children are more frequently attacked with this diſeaſe than adults; and it is ſometimes extremely difficult to prevail on them to tics, both by vomiting and nauſeating, prove uſeful, eſpecially when employed early in the diſeaſe. When any conſiderable tumour occurs, bliſters applied externally will be of ſervice, and, in any caſe, may be fit to moderate the internal inflammation.*

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take a ſufficient quantity of this neceſſary and valuable, though nauſeous medicine. In theſe caſes, glyſters with powdered bark have been uſed with very great ſucceſs. Two drachms of the fine powder may be given in five or ſix ounces of barley water, every three or four hours, to very young children, and half an ounce, or ſix drachms, to children of 8 or 10 years old, in three quarters of a pint of barley-water. If the firſt glyſter comes away too ſpeedily, two or three grains of opium may be added to the ſubſequent glyſters.

* In addition to the method of cure here delivered, it may be proper to obſerve, that, as the cure depends much on the removal of every thing putrid from the patient, it is abſolutely neceſſary to have the room well ventilated, but not with cold air. The reaſon for this precaution is, that the patient always complains of the leaſt admiſſion of cold air, becoming ſick and oppreſſed, probably in conſequence of the ſudden diſappearance of the efforeſcence which always accompanies the diſeaſe. The linen ought frequently to be changed, the patient kept clean, the mouth and throat frequently waſhed, and great plenty of liquid vegetable nutriment muſt be given, with generous wine.

A hemorrhage from the noſe, mouth, or ears, very frequently occurs in the latter ſtages of a malignant ſore throat.

This diſcharge is by no means critical, but always a dangerous ſymptom, and muſt be ſtopped with the utmoſt expedition. It is the conſequence of ſome arterial branch being corroded by the mortification. If the hemorrhage withſtands the uſual means of tents dipt in vinegar, or a ſolution of alum, &c. recourſe muſt be had to opium and bark; and the port wine muſt be given ſparingly.

In the advanced ſtages, a diarrhœa frequently appears, eſpecially in children; it proceeds from the putrid and acrid matter of the ulcers being received into the inteſtines. It can only be prevented, or effectually removed, by a careful attention to keep the mouth as clean as poſſible.

SECT. III.

OF THE CYNANCHE TRACHEALIS.

CCCXVIII.

This* name has been given to an inflammation of the glottis, larynx, or upper part of the trachea, whether it affect the membranes of theſe parts, or the muſcles adjoining. It may ariſe firſt in theſe parts, and continue to ſubſiſt in them alone; or it may come to affect theſe parts from the Cynanche tonſillaris or maligna ſpreading into them.

CCCXIX.

In either way it has been a rare occurrence, and few inſtances of it have been marked and recorded by phyſicians. It is to be known by a peculiar ringing ſound of the voice, by difficult reſpiration, with a ſenſe of ſtraitening about the larynx, and by a pyrexia attending it.

CCCXX.

From the nature of theſe ſymptoms, and from the diſſection of the bodies of perſons who had died of this diſeaſe, there is no doubt of its being of an inflammatory nature. It does not, however, always run the courſe of inflammatory affections, but frequently produces ſuch an obſtruction of the paſſage of the air, as ſuffocates, and thereby proves ſuddenly fatal.

CCCXXI.

If we judge rightly of the nature of this diſeaſe, it will be obvious, that the cure of it requires the moſt powerful remedies of inflammation, to be employed upon

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* This diſeaſe has been ſuppoſed to be new, and confined chiefly to infants. It is however, deſcribed by many of both the ancient and modern writers. Boerhaave deſcribes it in his 801ſt and 802d Aphoriſm. It is, indeed, uncommon in adults, and moſt frequent in infants. It was never rightly underſtood, however, till Dr. Home the profeſſor of Materia Medica in this Univertſiy, inveſtigated its nature, and pointed out the only effectual method of cure.

upon the very firſt appearance of the ſymptoms.—When a ſuffocation is threatened, whether any remedies can be employed to prevent it, we have not had experience to determine,

CCCXXII.

The accounts which books have hitherto given us of inflammation of the larynx, and the parts connected with it, amount to what we have now ſaid; and the inſtances recorded have almoſt all of them happened in adult perſons; but there is a peculiar affection of this kind happening eſpecially to infants, which till lately has been little taken notice of. Dr. Home is the firſt who has given any diſtinct account of it; but, ſince he wrote, ſeveral other authors have taken notice of it, (ſee MICHAELIS *De angina polypoſa ſive membranacea*, *Argentorati* 1778); and have given different opinions with regard to it. Concerning this diverſity of opinions I ſhall not at preſent inquire; but ſhall deliver the hiſtory and cure of this diſeaſe, in ſo far as theſe have ariſen from my own obſervation, from that of Dr. Home, and of other ſkilful perſons in this neighbourhood.

CCCXXIII.

This diſeaſe ſeldom attacks infants till after they have been weaned. After this period, the younger they are, the more they are liable to it. The frequency of it becomes leſs as children become more advanced; and there are no inſtances of children above twelve years of age being affected with it. It attacks children of the midland countries, as well as thoſe who live near the ſea. It does not appear to be contagious, and its attacks are frequently repeated in the ſame child. It is often manifeſtly the effect of cold applied to the body; and therefore appears moſt frequently in the winter and ſpring ſeaſons. It very commonly comes on with the ordinary ſymptoms of a catarrh;

but ſometimes the peculiar ſymptoms of the diſeaſe ſhow themſelves at the very firſt.

CCCXXIV.

Theſe peculiar ſymptoms are the following; A hoarſeneſs, with ſome ſhrillneſs and ringing ſound, both in ſpeaking and coughing, as if the noiſe came from a brazen tube. At the ſame time, there is a ſenſe of pain about the larynx, ſome difficulty of reſpiration, with a whizzing ſound in inſpiration, as if the paſſage of the air were ſtraitened. The cough which attends it, is commonly dry; and, if any thing be ſpit up, it is a matter of purulent appearance, and ſometimes films reſembling portions of a membrane. Together with theſe ſymptoms, there is a frequency of pulſe, a reſtleſſneſs, and an uneaſy ſenſe of heat. When the internal fauces are viewed, they are ſometimes without any appearance of inflammation: but frequently a redneſs and even ſwelling, appear; and ſometimes in the fauces there is an appearance of matter like to that rejected by coughing. With the ſymptoms now deſcribed, and particularly with great difficulty of breathing, and a ſenſe of ſtrangling in the fauces, the patient is ſometimes ſuddenly taken off.

CCCXXV.

There have been many diſſections made of infants who had died of this diſeaſe; and almoſt conſtantly there has appeared a preternatural membrane lining the whole internal ſurface of the upper part of the trachea, and extending in the ſame manner downwards into ſome of its ramifications. This preternatural membrane may be eaſily ſeparated, and ſometimes has been found ſeparated in part, from the ſubjacent proper membrane of the trachea. This laſt is commonly found entire, that is, without any appearance of eroſion or ulceration; but it frequently ſhows the veſtiges of inflammation, and is covered by a matter reſembling pus, like to that rejected by coughing; and very often a matter of the ſame kind is found in the bronchiæ, ſometimes in conſiderable quantity.

CCCXXVI.

From the remote cauſes of this diſeaſe; from the catarrhal ſymptoms commonly attending it; from the pyrexia conſtantly preſent with it; from the ſame kind of preternatural membrane being found in the trachea when the cynanche maligna is communicated to it; and, from the veſtiges of inflammation on the trachea diſcovered upon diſſection; we muſt conclude, that the diſeaſe conſiſts in an inflammatory affection of the mucous membrane of the larynx and trachea, producing an exudation analogous to that found on the ſurface of inflamed viſcera, and appearing partly in a membranous cruſt, and partly in a fluid reſembling pus.

CCCXXVII.

Though this diſeaſe manifeſtly conſiſts in an inflammatory affection, it does not commonly end either in ſuppuration or gangrene. The peculiar and troubleſome circumſtances of the diſeaſe ſeems to conſiſt in a ſpaſm of the muſcles of the glottis, which, by inducing a ſuffocation, prevents the common conſequences of inflammation.

CCCXXVIII.

When this diſeaſe terminates in health, it is by a reſolution of an inflammation, by ceaſing of the ſpaſm of the glottis, by an expectoration of the matter exuding from the trachea, and of the cruſts formed here; and frequently it ends without any expectoration, or at leaſt with ſuch only as attends an ordinary catarrh.

CCCXXIX.

When the diſeaſe ends fatally, it is by a ſuffocation; ſeemingly, as we have ſaid, depending upon a ſpaſm affecting the glottis; but ſometimes, probably, depending upon a quantity of matter filling the bronchiæ.

CCCXXX.

As we ſuppoſe the diſeaſe to be an inflammatory affection, ſo we attempt to cure it by the uſual remedies of inflammation, and which for the moſt part I have found effectual. Bleeding, both general and topical*, has often given immediate relief; and, by being repeated, has entirely cured the diſeaſe. Bliſtering alſo, near the part affected, has been found uſeful. Upon the firſt attack of the diſeaſe, vomiting, immediately after bleeding, ſeems to be of conſiderable uſe, and ſometimes ſuddenly removes the diſeaſe. In every ſtage of the diſeaſe, the antiphlogiſtic regimen is neceſſary, and particularly the frequent uſe of laxative glyſters†. Though we ſuppoſe that a ſpaſm affecting the glottis is often fatal in this diſeaſe, I have not found antiſpaſmodic medicines to be of any uſe.

SECT.

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* The topical bleeding is beſt performed by leeches. Three or four may be applied at once on each ſide of the trachea, or on the trachea itſelf. Notwithſtanding this recommendation of topical bleeding, previous general bleeding is abſolutely neceſſary in every caſe, and ought never to be omitted. It frequently produces relief even while the blood is flowing from the vein; but, in theſe caſes, it is imprudent to ſtop the evacuation, even on the total removal of the ſymptoms. As much blood muſt be drawn as the infant can bear to loſe, und leeches ought moreover to be applied, as above directed; for it frequently happens, that, when all the ſymptoms ſuddenly diſappear, the diſeaſe returns in a few hours with redoubled violence, and ſpeedily puts an end to the child's life.

† Laxative glyſters are to be carefully diſtinguiſhed from purging glyſters, which generally irritate too violently, and thus increaſe the inflammatory diatheſis. It is of little conſequence what the compoſitions of glyſters be, provided they contain ſome Glauber's or Epſom ſalt, and are ſufficiently large. The common glyſter with milk and water, and a little Epſom ſalt, anſwers ſufficiently well.

SECT. IV.

OF THE CYNANCHE PHARYNGÆA.

CCCXXXI.

In the Cynanche tonſillaris, the inflammation of the mucous membrane often ſpreads upon the pharynx, and into the beginning of the œſophagus, and thereby renders deglutition more difficult and uneaſy: but ſuch a caſe does not require to be diſtinguiſhed as a different ſpecies from the common Cynanche tonſillaris; and only requires that blood-letting and other remedies ſhould be employed with greater diligence than in ordinary caſes. We have never ſeen any caſe in which the inflammation began in the pharynx, or in which this part alone was inflamed: but practical writers have taken notice of ſuch a caſe; and to them, therefore, I muſt refer, both for the appearances which diſtinguiſh it, and for the method of cure.

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SECT. V.

OF THE CYNANCHE PAROTIDÆA.

CCCXXXII.

THIS is a diſeaſe known to the vulgar, and among them has got a peculiar appellation, in every country of Europe*; but has been little taken notice of by medical writers. It is often epidemic, and manifeſtly contagious. It comes on with the uſual ſymptoms of pyrexia, which is ſoon after attended with a conſiderable tumour of the external fauces and neck.—This tumour appears firſt as a glandular moveable tumour at the corner of the lower jaw; but the ſwelling ſoon becomes uniformly diffuſed over a great part of the neck, ſometimes on one ſide only, but more commonly on both. The ſwelling continues to increaſe till the fourth day; but from that period it declines, and in a few days more paſſes off entirely. As the ſwelling of the fauces recedes, ſome tumour affects the teſticles in the male ſex, or the breaſts in the female. Theſe tumours are ſometimes large, hard, and ſomewhat painful; but in this climate are ſeldom either very painful or of long continuance. The pyrexia attending this diſeaſe is commonly ſlight, and recedes with the ſwelling of the fauces; but ſometimes, when the ſwelling of the teſticles does not ſucceed to that of the fauces, or when the other has been ſuddenly repreſſed, the pyrexia becomes more conſiderable, is often attended with delirium, and has ſometimes proved fatal.

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* It is called here, and in many parts of Great-Britain, the Mumps.

CCCXXXIII.

As this diſeaſe commonly runs its courſe without either dangerous or troubleſome ſymptoms, ſo it hardly requires any remedies. An antiphlogiſtic regimen and avoiding cold, are all that will be commonly neceſſary. But when, upon the receding of the ſwellings of the teſticles in males, or of the breaſts in females, the pyrexia comes to be conſiderable, and threatens an affection of the brain, it will be proper, by warm fomentations, to bring back the ſwelling; and, by vomiting, bleeding, or bliſtering, to obviate the conſequences of its abſence.

CHAP. VI.

OF PNEUMONIA, OR PNEUMONIC INFLAMMATION.

CCCXXXIV.

UNDER this title I mean to comprehend the whole of the inflammations affecting either the viſcera of the thorax, or the membrane lining the interior ſurface of that cavity: for neither do our diagnoſtics ſerve to aſcertain exactly the ſeat of the diſeaſe; nor does the difference in the ſeat of the diſeaſe exhibit any conſiderable variation in the ſtate of the ſymptoms, nor lead to any difference in the method of cure

CCCXXXV.

Pneumonic inflammation, however various in its ſeat, ſeems to me to be always known and diſtinguiſhed by the following ſymptoms: pyrexia, difficult breathing, cough, and pain in ſome part of the thorax. But theſe ſymptoms are, on different occaſions, variouſly modified.

CCCXXXVI.

The diſeaſe almoſt always comes on with a cold ſtage, and is accompanied with other ſymptoms of pyrexia; though, in a few inſtances, the pulſe may not be more frequent, nor the heat of the body increaſed beyond what is natural. Sometimes the pyrexia is from the beginning accompanied with the other ſymptoms; but frequently it is formed for ſome hours before the other ſymptoms become conſiderable, and particularly before the pain be felt. For the moſt part, the pulſe is frequent *, full, ſtrong, hard, and quick †; but in a few inſtances, eſpecially in the advanced

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* A frequent pulſe is when there is a great number of ſtrokes in a given time.

† A quick pulſe is when the ſtroke itſelf is quick, although the number in a given time be not very great.

It is therefore no tautology to mention both frequent and quick, as they are really diſtinct, and may be both preſent at once; but, if vanced ſtate of the diſeaſe, the pulſe is weak and ſoft, and at the ſame time irregular.

CCCXXXVII.

The difficulty of breathing is always preſent, and moſt conſiderable in inſpiration; both becauſe the lungs do not eaſily admit of a full dilatation, and becauſe the dilatation aggravates the pain attending the diſeaſe. The difficulty of breathing is alſo greater when the patient is in one poſture of his body rather than another. It is generally greater when he lies upon the ſide affected; but ſometimes the contrary happens. Very often the patient cannot lie eaſy upon either ſide, finding eaſe only when lying on his back; and ſometimes, he cannot breathe eaſily, except when in ſomewhat of an erect poſture.

CCCXXXVIII.

A cough always attends this diſeaſe; but, in different caſes, is more or leſs urgent and painful. It is ſometimes dry, that is, without any expectoration, eſpecially in the beginning of the diſeaſe: but more commonly it is, even from the firſt, moiſt, and the matter ſpit up various both in conſiſtence and colour; and frequently it is ſtreaked with blood *.

CCCXXXIX.

The pain attending this diſeaſe, is, in different caſes, felt in different parts of the thorax, but moſt frequently in one ſide. It has been ſaid to affect the right ſide more frequently than the left; but this is not certain; while, on the other hand, it is certain that the left has been very often affected. The pain is felt

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the pulſe be above an hundred in a minute, the phyſician muſt have a very nice ſenſe of feeling to diſtinguiſh between a quick and a ſlow beat.

* Young practitioners ſhould not be alarmed at this ſymptom; nor ſhould they ſuppoſe it a dangerous one: it is, on the contrary, a ſalutary ſymptom, and ought not to be reſtrained, either by too rigorous an adherence to the antiphlogiſtic regimen, or by the uſe of ſtyptics and other aſtringents.

ſometimes as if it were under the ſternum; ſometimes in the back between the ſhoulders; and, when in the ſides, its place has been higher or lower, more forward or backward: but the place of all others moſt frequently affected, is about the ſixth or ſeventh rib, near the middle of its length, or a little more forward. The pain is often ſevere and pungent; but ſometimes more dull and obtuſe, with a ſenſe of weight rather than of pain. It is moſt eſpecially ſevere and pungent when occupying the place laſt mentioned. For the moſt part it continues fixed in one place; but ſometimes ſhoots from the ſide to the ſcapula on one hand, or to the ſternum and clavicle on the other.

CCCXL.

The varying ſtate of ſymptoms now mentioned does not always aſcertain preciſely the ſeat of the diſeaſe. To me it ſeems probable, that the diſeaſe is always ſeated, or at leaſt begins, in ſome part of the pleura; taking that membrane in its greateſt extent, as now commonly underſtood; that is, as covering not only the internal ſurface of the cavity of the thorax, but alſo as forming the mediaſtinum, and as extended over the pericardium, and over the whole ſurface of the lungs.

CCCXLI.

There is, therefore, little foundation for diſtinguiſhing this diſeaſe by different apellations taken from the part which may be ſuppoſed to be chiefly affected. The term Pleuriſy, might with propriety be applied to every caſe of the diſeaſe; and has been very improperly limited to that inflammation which begins in, and chiefly affects the *pleura coſtalis*. I have no doubt that ſuch a caſe does truly occur: but, at the ſame time, I apprehend it to be a rare occurrence; and that the diſeaſe much more frequently begins in, and chiefly affects, the pleura inveſting the lungs, producducing all the ſymptoms ſuppoſed to belong to what has been called the *Pleuritis vera.*

CCCXLII.

Some phyſicians have imagined, that there is a caſe of pneumonic inflammation particularly entitled to the apellation of *Peripneumony;* and that is, the caſe of an inflammation beginning in the parenchyma or cellular texture of the lungs, and having its ſeat chiefly there. But it ſeems to me very doubtful, if any acute inflammation of the lungs, or any diſeaſe which has been called Peripneumony, be of that kind. It ſeems probable, that every acute inflammation begins in membranous parts; and, in every diſſection of perſons dead of peripneumony, the external membrane of the lungs, or ſome part of the pleura, has appeared to have been conſiderably affected.

CCCXLIII.

An inflammation of the pleura covering the upper ſurface of the diaphragm, has been diſtinguiſhed by the appellation of *Paraphrenitis*, as ſuppoſed to be attended with the peculiar ſymptoms of delirium, riſus ſardonicus, and other convulſive motions: but it is certain, that an inflammation of that portion of the pleura, and affecting alſo even the muſcular ſubſtance of the diaphragm, has often taken place without any of theſe ſymptoms; and I have not met with either diſſections, or any accounts of diſſections, which ſupport the opinion, that an inflammation of the pleura covering the diaphragm, is attended with delirium more commonly than any other pneumonic inflammation.

CCCLIV

With reſpect to the ſeat of pheumonic inflammation, I muſt obſerve further, that, although it may ariſe and ſubſiſt chiefly in one part of the pleura only, it is however frequently communicated to other parts of the ſame, and commonly communicates a morbid affection through its whole extent.

CCCCLV.

The remote cauſe of pneumonic inflammation, is, commonly, cold applied to the body, obſtructing perſpiration, and determining to the lungs; while at the ſame time the lungs themſelves are expoſed to the action of the cold. Theſe circumſtances operate eſpecially, when an inflammatory diatheſis prevails in the ſyſtem; and, conſequently, upon perſons of the greateſt vigour; in cold climates; in the winter ſeaſon; and particularly in the ſpring, when viciſſitudes of heat and cold are frequent. The diſeaſe, however, may ariſe in any ſeaſon when ſuch viciſſitudes occur.

Other remote cauſes alſo may have a ſhare in this matter; ſuch as, every means of obſtructing, ſtraining[†], or otherwiſe injuring[‡], the pneumonic organs.

Pneumonic inflammation may happen to perſons of any age, but rarely to thoſe under the age of puberty: and moſt commonly it affects perſons ſomewhat advanced in life, as thoſe between forty-five and ſixty years; thoſe, two, eſpecially of a robuſt and full habit.

The pneumonic inflammation has been ſometimes ſo much an epidemic, as to occaſion a ſuſpicion of its depending upon a ſpecific contagion; but I have not met with any evidence in proof of this. See Morgagni de cauſis et ſedibus morborum, epiſt. xxi. art. 26.

CCCXLVI.

The pneumonic, like other inflammations, may terminate,

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[*] Violent exertions, in ſpeaking, ſinging, playing on wind inſtruments, running up hill, or in ſhort any exerciſe that increaſes the action of the lungs.

[†] Receiving noxious vapours into the lungs is ſometimes the cauſe of pneumonic inflammation; eſpecially corroſive or other acrid poiſonous vapours, as the fumes of arſenic, of ſulphur, of the muriatic acid, and ſimilar cauſtic and deſtructive exhalations. Chemiſts, therefore, in making experiments, or artiſts who work on ſubſtances yielding ſuch vapours, ſhould be careful to avoid them.

minate, by reſolution, ſuppuration, or gangrene; but it has alſo a termination peculiar to itſelf, as has been hinted above, (cclix.) and that is, when it is attended with an effuſion of blood into the cellular texture of the lungs, which ſoon interrupting the circulation of the blood through this viſcus, produces a fatal ſuffocation. This, indeed, ſeems to be the moſt common termination of pneumonic inflammation, when it ends fatally; for, upon the diſſection of almoſt every perſon dead of the diſeaſe, it has appeared that ſuch an effuſion had happened.

CCCXLVII.

From theſe diſſections alſo we learn, that pneumonic inflammation commonly produces an exudation from the internal ſurface of the pleura; which appears partly as a ſoft viſcid cruſt, often of a compact, membranous form, covering every where the ſurface of the pleura, and particulary thoſe parts where the lungs adhere to the pleura coſtalis, or mediaſtinum; and this cruſt ſeems always to be the cement of ſuch adheſions.

The ſame exudation ſhows itſelf, alſo, by a quantity of a ſerous whitiſh fluid, commonly found in the cavity of the thorax; and ſome exudation or effuſion is uſually found to have been made likewiſe into the cavity of the pericardium.

CCCXLVIII.

It ſeems probable, too, that a like effuſion is ſometimes made into the cavity of the bronchiæ: for, in ſome perſons who have died after labouring under a pneumonic inflammation for a few days only, the bronchiæ have been found filled with a conſiderable quantity of a ſerous and thickiſh fluid; which, I think, muſt be conſidered rather as the effuſion mentioned, having had its thinner parts taken off by reſpiration, than as a pus ſo ſuddenly formed in the inflamed part.

CCCXLIX.

It is, however, not improbable, that this effuſion, as well as that made into the cavities of the thorax and pericardium, may be a matter of the ſame kind with that which, in other inflammations, is poured into the cellular textute of the parts inflamed, and there converted into pus; but, in the thorax and pericardium, it does not always aſſume that appearance, becauſe the cruſt covering the ſurface prevents the abſorption of the thinner part. This abſorption, however, may be compenſated in the bronchiæ by the drying power of the air; and therefore the effuſion into them may put on a more purulent appearance.

In many caſes of pneumonic inflammation, when the Sputa are very copious, it is difficult to ſuppoſe that the whole of them proceed from the mucous follicles of the bronchiæ. It ſeems more probable that a great part of them may proceed from the effuſed ſerous fluid we have been mentioning; and this too will account for the ſputa being ſo often of a purulent appearance. Perhaps the ſame thing may account for that purulent expectoration, as well as that purulent matter found in the bronchiæ, which the learned Mr. de Haen ſays he had often obſerved, when there was no ulceration of the lungs: and this explanation is at leaſt more probable than Mr. de Haen's ſuppoſition of a pus formed in the circulating blood.

CCCL.

To conclude this ſubject, it would appear, that the effuſion into the bronchiæ which we have mentioned, often occurs with the effuſion of red blood in occaſioning the ſuffocation, which fatally terminates pneumonic inflammation; that the effuſion of ſerum alone may have this effect; and that the ſerum poured out in a certain quantity, rather than any debility in the powers of expectoration, is the cauſe of that ceaſing of expectoration which very conſtantly precedes the fatal event. For, in many caſes, the expectoration has ceaſed, when no other ſymptoms of debility have appeared, and when, upon diſſection, the bronchiæ have been found full of liquid matter. Nay, it is even probable, that, in ſome caſes, ſuch an effuſion may take place, without any ſymptoms of violent inflammation; and, in other caſes, the effuſion taking place, may ſeem to remove the ſymptoms of inflammation which had appeared before, and thus account for thoſe unexpected fatal terminations which have ſometimes happened. Poſſibly this effuſion may account alſo for many of the phenomena of the Peripneumonia Notha.

CCCLI.

Pneumonic inflammation ſeldom terminates by reſolution, without being attended with ſome evident evacuation. An hæmorrhagy from the noſe happening upon ſome of the firſt days of the diſeaſe, has ſometimes put an end to it; and it is ſaid, that an evacuation from the hemorrhoidal veins, a bilious evacuation by ſtool, and an evacuation of urine with a copious ſediment, have ſeverally had the ſame effect: but ſuch occurrences have been rare and unuſual.

The evacuation moſt frequently attending, and ſeeming to have the greateſt effect in promoting reſolution, is an expectoration of a thick white or yellowiſh matter, a little ſtreaked with blood, copious, and brought up without either much or violent coughing.

Very frequently the reſolution of this diſeaſe is attended with, and perhaps produced by a ſweat, which is warm, fluid, copious over the whole body, and attended with an abatement of the frequency of the pulſe, of the heat of the body, and of the other febrile ſymptoms.

CCCLII.

The prognoſtics in this diſeaſe are formed from obſerving the ſtate of the principal ſymptoms.

A violent pyrexia is always dangerous.

The danger, however, is chiefly denoted by the difficulty of breathing. When the patient can lie on one ſide only; when he can lie on neither ſide, but upon his back only; when he cannot breath with tolerable eaſe, except the trunk of his body be erect; when, even in this poſture, the breathing is very difficult, and attended with a turgeſcence and fluſhing of the face, together with partial ſweats about the head and neck, and an irregular pulſe: theſe circumſtances mark the difficulty of breathing in progreſſive degrees, and conſequently, in proportion, the danger of the diſeaſe.

A frequent violent cough aggravating the pain, is always the ſymptom of an obſtinate diſeaſe.

As I apprehend that the diſeaſe is hardly ever reſolved, without ſome expectoration; ſo a dry cough muſt be always an unfavourable ſymptom.

As the expectoration formerly deſcribed, marks that the diſeaſe is proceeding to a reſolution; ſo an expectoration which has not the conditions there mentioned, muſt denote at leaſt a doubtful ſtate of the diſeaſe; but the marks taken from the colour of the matter are for the moſt part fallacious.

An acute pain, very much interrupting inſpiration is always the mark of a violent diſeaſe; though not of one more dangerous, than an obtuſe pain, attended with very difficult reſpiration.

When the pains, which at firſt had affected one ſide only, have afterwards ſpread into the other; or when, leaving the ſide firſt affected, they entirely paſs into the other: theſe are always marks of an increaſing, and therefore, of a dangerous diſeaſe.

A delirium coming on during a pneumonic inflammation, is conſtantly a ſymptom denoting much danger.

CCCLIII.

When the termination of this diſeaſe proves fatal, it is on one or other of the days of the firſt week, from the third to the ſeventh. This is the moſt common caſe; but, in a few inſtances, death has happened at a later period of the diſeaſe.

When the diſeaſe is violent, but admitting of reſolution, this alſo happens frequently in the courſe of the firſt week; but, in a more moderate ſtate of the diſeaſe, the reſolution is often delayed to the ſecond week.

The diſeaſe, on ſome of the days from the third to the ſeventh, generally ſuffers a remiſſion; which, however, may be often fallacious, as the diſeaſe does ſometimes return again with as much violence as before, and then with great danger.

Sometimes the diſeaſe diſappears on the ſecond or third day, while an eryſipelas makesits appearance on ſome external part; and if this continue fixed, the pneumonic inflammation does not recur.

CCCLIV.

Pneumonia, like other inflammations, often ends in ſuppuration or gangrene*.

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* As this termination of Pneumonia is always fatal, it is highly neceſſary that the phyſician ſhould be able to know when a gangrene is to be ſuſpected, that he may take the proper means for preventing it: or, when it is abſolutely formed, that he may ſave his reputation, by informing the patient's relations of the impending danger, and the fatal conſequences with which ſuch a termination is attended: I ſhall therefore add ſome of the more remarkable diagnoſtics of an incipient gangrene in this diſeaſe. A purulent ſpitting, ſtreaked with deep coloured blood, or with a blackiſh matter; a fetid breath; a rattling in the throat; a dejected countenance; a dim eye; a languid quick pulſe; the blood drawn from a vein void of the inflammatory cruſt; fetid green ſtools in abundance; urine of a bright flame colour, or depoſiting a black ſediment of a ſcaly appearance. More ſymptoms of this fatal termination are unneceſſary; for, if moſt of thoſe above mentioned be preſent, the phyſician has no other duty to perform than warn the friends of the patient that death may be ſoon expected. It may be farther remarked, that, when a gangrene is begun, the patient is conſiderably freed from pain, and both himſelf and his attendants have graet hopes of his recovering; a few hours, however, ſoon undeceives them, and

CCCLV.

When a pneumonia, with ſypmtoms neither very violent nor very ſlight, has continued for many days, it is to be feared it will end in a ſuppuration. This, however, is not to be determined preciſely by the number of days: for, not only after the fourth, but even after the tenth day, there have been examples of a pneumonia ending by a reſolution; and if the diſeaſe has ſuffered ſome intermiſſion, and again recurred, there may be inſtances of a reſolution happening at a much later period from the beginning of the diſeaſe, than that juſt now mentioned.

CCCLVI.

But if a moderate diſeaſe, in ſpite of proper remedies employed, be protracted t the fourteenth day without any conſiderable remiſſion, a ſuppuration is pretty certainly to be expected; and it will be ſtill more certain, if no ſigns of reſolution have appeared, or if an expectoration which had appeared ſhall have again ceaſed, and the difficulty of breathing has continued or increaſed, while the other ſymptoms have rather abated.

CCCLVII.

That, in a pneumonia, the effuſion is made, which may lay the foundation of a ſuppuration, we conclude from the difficulty of breathing becoming greater when the patient is in a horizontal poſture*, or when he can lie more eaſily upon the affected ſide.

CCCLVIII.

That, in ſuch caſes, a ſuppuration has actually begun, may be concluded from the patient's being frequently affected with ſlight cold ſhiverings, and with a ſenſe

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raiſes the reputation of the phyſician, who has pronounced a true prognoſis. See ſome other diagnoſtics of gangrene in the notes on article 359.

* In all pneumonic affections, the breathing is generally more difficult when the patient lies in an horizontal poſture, it cannot therefore be admitted as a diagnoſtic of an effuſion.

a ſenſe of cold ſometimes in one and ſometimes in another part of the body. We form the ſame concluſion alſo from the ſtate of the pulſe, which is commonly leſs frequent and ſofter, but ſometimes quicker and fuller, than before.

CCCLIX.

That a ſuppuration is already formed, may be inferred from there being a conſiderable remiſſion* of the pain which had been before ſubſiſted, while, along with this, the cough, and eſpecially the dyſpnœa, continue, and are rather augmented. At the ſame time, the frequency of the pulſe is rather increaſed†; the feveriſh ſtate ſuffers conſiderable exacerbations every evening, and by degrees a hectic in all its circumſtances comes to be formed.

CCCLX.

The termination of Pneumonia by gangrene, is much more rare than has been imagined; and when it does occur, it is uſually joined with the termination by effuſion (ccclxiv.) and the ſymptoms of the one are hardly to be diſtinguiſhed from thoſe of the other.

CCCLXI.

The cure of pneumonic inflammation, muſt proceed upon the general plan (cclxiv.) but the importance of the part affected, and the danger to which it is expoſed, require that the remedies be fully, as well as early, employed.

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[*] The young phyſician muſt be on his guard with reſpect to this ſymptom; for it is alſo a ſymptom of an incipient, or an already formed gangrene; he ought therefore to be peculiarly attentive to the concomitant ſymptoms which the author enumerates, viz. the continuance or augmentation of the difficulty of breathing and the cough, both of which either totally diſappear, or are conſiderably leſſened on the ſupervention of gangrene.

[†] The increaſed frequency of the pulſe is alſo a ſymptom of a gangrene being formed, but, if that increaſed frequency be attended with febrile exacerbations in the evenings, then and then only can the phyſician be ſure that the diſeaſe has terminated in ſuppuration, and not in gangrene.

CCCLXII.

The remedy chiefly to be depended upon, is that of bleeding at the arm; which will be performed with moſt advantage in the arm of the ſide moſt affected, but may be done in either arm, as may be moſt convenient for the patient or the ſurgeon. The quantity drawn muſt be ſuited to the violence of the diſeaſe, and to the vigour of the patient; and generally ought to be as large as this laſt circumſtance will allow. The remiſſion of pain, and the relief of reſpiration, during the flowing of the blood, may limit the quantity to be then drawn; but if theſe ſymptoms of relief do not appear, the bleeding ſhould be continued till the ſymptoms of a beginning ſyncope come on. It is ſeldom that one bleeding, however large, will prove a cure of this diſeaſe; and although the pain and difficulty of breathing may be much relieved by the firſt bleeding, theſe ſymptoms commonly, and after no long interval, recur; often with as much violence as before. In the event of ſuch recurrence, the bleeding is to be repeated, even in the courſe of the ſame day, and perhaps to the ſame quantity as before.

Sometimes the ſecond bleeding may be larger than the firſt. There are perſons who, by their conſtitution, are ready to faint even upon a ſmall bleeding; and, in ſuch perſons, this may prevent the drawing ſo much blood at firſt as a pneumonic inflammation might require; but, as the ſame perſons are frequently found to bear after-bleedings better than the firſt, this allows the ſecond and ſubſequent bleedings to be larger, and to ſuch a quantity as the ſymptoms of the diſeaſe may ſeem to demand.

CCCLXIII.

It is according to the ſtate of the ſymptoms, that bleedings are to be repeated; and they will be more effectual when practiſed in the courſe of the firſt three days, than afterwards; but they are not to be omitted, although four days of the diſeaſe may have already elapſed. If the phyſician ſhall not have been called in ſooner; or if the bleedings practiſed during the firſt days ſhall not have been large enough, or even although theſe bleedings ſhall have procured ſome remiſſion; yet, upon the recurrence of the urgent ſymptoms, the bleeding ſhould be repeated at any period of the diſeaſe, eſpecially within the firſt fortnight; and even afterwards, if a tendency to ſuppuration be not evident, or if, after a ſeeming ſolution, the diſeaſe ſhall have again returned.

CCCLXIV.

With reſpect to the quantity of blood which ought, or which with ſafety may be taken away, no general rules can be delivered, as it muſt be very different, according to the ſtate of the diſeaſe, and conſtitution of the patient. In an adult male of tolerable ſtrength, a pound of blood, avoirdupois, is a full bleeding. Any quantity above twenty ounces, is a large, and any quantity below twelve a ſmall, bleeding. A quantity of from four to five pounds, in the courſe of two or three days, is generally as much as ſuch patients will ſafely bear; but, if the intervals between the bleedings and the whole of the time during which the bleedings have been employed have been long, the quantity taken upon the whole may be greater†.

CCC-

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† Bleedings produce the beſt effect when the blood is drawn off as quickly as poſſible in a large full ſtream; and, in order to prevent ſyncope, the patient ought to be laid horizontally, or even with his head lower than his trunk.

With reſpect to the quantity of blood to be drawn at once, or in the whole courſe of the diſeaſe, no general directions can be given; it muſt depend entirely on the circumſtances of the diſeaſe and of the patient. In general, it is uſual to continue the diſcharge until the patient can either breathe more freely, or feels a conſiderable abatement of the pain. If, however, the pain does not abate while the blood continues to flow, but ſigns of fainting appear, the blood muſt then be immediately ſtopped.

If the pain and other ſymptoms continue violent, or return after

CCCLXV.

When a large quantity of blood has been already taken from the arm, and when it is doubtful if more can with ſafety be drawn in that manner, ſome blood may ſtill be taken by cupping and ſcarifying. Such a meaſure will be more particularly proper, when the continuance or recurrence of pain, rather than the difficulty of breathing, becomes the urgent ſymptom; and then the cupping and ſcarifying ſhould be made as near to the pained part as can conveniently be done.

CCCLXVI.

An expectoration takes place ſometimes very early in this diſeaſe: but if, notwithſtanding that, the urgent ſymptoms ſhould ſtill continue, the expectoration muſt not ſuperſede the bleedings mentioned; and during the firſt days of the diſeaſe, its ſolution is not to be truſted to the expectoration alone. It is in a more advanced ſtage only, when the proper remedies have been before employed, and when the ſymptoms have ſuffered a conſiderable remiſſion, that the entire cure may be truſted to a copious and free expectoration.

CCCLXVII.

During the firſt days of the diſeaſe, I have not found that bleeding ſtops expectoration. On the contrary, I have often obſerved bleeding promote it; and it is in a more advanced ſtage of the diſeaſe only, when the patient, by large evacuations and the continuance of the diſeaſe, has been already exhauſted, that bleeding ſeems to ſtop expectoration. It appears to me, that even then bleeding does not ſtop expectoration

the firſt bleeding, it will then be neceſſary to have recourſe to the operation; and it muſt be repeated frequently through the courſe of the diſeaſe; avoiding, however, ſo large an evacuation at once as may induce fainting. The reaſon of this precaution is evident, viz. that, while the motion of the heart is ſuſpended during fainting, the blood ſtagnates in the right ſide of the heart, and is afterwards thrown with greater impetuoſity through the lungs.

ration ſo much by weakening the powers of expectoration, as by favouring the ſerous effuſion into the bronchiæ, (cccxlviii.) and thereby preventing it.

CCCLXVIII.

While the bleedings we have mentioned ſhall be employed, it will be neceſſary to employ alſo every part of the antiphlogiſtic regimen, (cxxx—cxxxii.) and particularly to prevent the irritation which might ariſe from any increaſe of heat. For this purpoſe, it will be proper to keep the patient out of bed, while he can bear it eaſily; and when he cannot, to cover him very lightly while he lies in bed. The temperature of his chamber ought not to exceed ſixty degrees of Farenheit's thermometer; and whether it may be at any time colder, I am uncertain.

CCCLXIX.

Mild and diluent drinks, moderately tepid, at leaſt never cold, given by ſmall portions at a time, ought to be adminiſtered plentifully. Theſe drinks may be impregnated with vegetable acids*. They may be properly accompanied alſo with nitre, or ſome other neutrals †; but theſe ſalts ſhould be given ſeparately from the drinks‡.

It has been alledged, that both acids and nitre are ready to excite coughing, and in ſome perſons they certainly have this effect; but, except in perſons of a peculiar habit, I have not found their effects in exciting cough ſo conſiderable or troubleſome as to prevent our ſeeking the advantages otherwiſe to be obtained from theſe medicines.

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* See the note to par. 131, l. 11. on the word acids.

† See the note, par. 160, laſt word.

‡ Theſe ſalts generally render the drink nauſeous; and, as plentiful dilution is abſolutely neceſſary in theſe caſes, ſo far from rendering the patient's common drink nauſeous, by impregnating it with ill favoured medicines, we ought, by every poſſible means, to endeavour to make it as agreeable as we can, that he may be the more eaſily prevailed on to take it plentifully.

CCCLXX.

Some practitioners have doubted, if purgatives can be ſafely employed in this diſeaſe; and indeed a ſpontaneous diarrhœa occurring in the beginning of the diſeaſe has ſeldom proved uſeful: but I have found the moderate uſe of cooling laxatives* generally ſafe, and have always found it uſeful to keep the belly open by frequent emolient glyſters.

CCCLXXI.

To excite full vomiting by emetics, I judge to be a dangerous practice in this diſeaſe: but I have found it uſeful to exhibit nauſeating doſes; and, in a ſomewhat advanced ſtate of the diſeaſe, I have found ſuch doſes prove the beſt means of promoting expectoration§.

CCCLXXII.

Fomentations and poultices applied to the pained part have been recommended, and may be uſeful; but the application of them is often inconvenient, and may be entirely omitted for the ſake of the more effectual remedy, bliſtering†.

Very early in the diſeaſe, a bliſter ſhould be applied as near the pained part as poſſible. But as, when the irritation of a bliſter is preſent, it renders bleeding leſs effectual; ſo the application of the bliſter ſhould be delayed till a bleeding ſhall have been employed. If the diſeaſe be moderate, the bliſter may be applied immediately after the firſt bleeding; but if the diſeaſe be violent, and it is preſumed that a ſecond bleeding may be neceſſary ſoon after the firſt it will then be proper to delay the firſt bliſter till after the ſecond bleeding, when it may be ſuppoſed that any further bleeding may be poſtponed till the irritation ariſing from the bliſter ſhall have ceaſed. It may be frequently neceſſary in this diſeaſe to repeat the bliſtering: and, in that caſe the plaſters ſhould always be applied ſomewhere on the thorax*; for, when applied to more diſtant parts, they have little effect. The keeping the bliſtered parts open, and making what is called a perpetual bliſter, has much leſs effect than a freſh bliſtering*.

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* The cooling laxatives are, ſalts, manna, &c. but, in theſe caſes, three or four ounces of infuſum ſennæ, with half an ounce of Glauber's ſalt may be given without danger.

§ The tartar emetic is the medicine generally employed for this purpoſe. The doſe of it in theſe caſes, muſt be very ſmall, and well diluted, as in the following formula:

℞. Antimon, tartariſat, gr. ii.
Aq. font, ℥ viiſs.
Syr. papaveris rubr. ℥ ſs.
M.

The doſe of this mixture ought not to exceed 3 table ſpoon-fuls, when given with this intention.

† The application of a bliſter to the part affected ought to be the firſt preſcription in all complaints of the thorax, except ſome remarkable, or urgent cauſe forbid the practice, becauſe it is a moſt efficacious remedy, and is as neceſſary as bleeding.

CCCLXXIII.

As this diſeaſe often terminates by an expectoration, ſo, various means of promoting this have been propoſed: but none of them appear to be very effectual; and ſome of them, being acrid ſtimulant ſubſtances, cannot be very ſafe.

The gums uſually employed ſeem too heating: ſquills ſeem to be leſs ſo; but they are not very powerful, and ſometimes inconvenient by the conſtant nauſea they induce†.

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* They ought however, to be applied as near to the pained part as poſſible.

† All the liquid forms of ſquills which we have in the ſhops are nauſeating. Pills made of the dry powder, with any electuary or conſerve, or honey, is the form in which ſquills affect the ſtomach leaſt. The doſe is 4 or 5 grains of the dry powder; 10 grains generally, if not conſtantly, produce vomitings. To prevent the nauſeating effect of ſquills, the addition of ſome grateful aromatic is of material uſe. The pilulæ ſiliticæ of the Edinburgh Pharmacopœia is a good formula, except that the doſe of it muſt be large, in

The volatile alkali may be of ſervice as an expectorant; but it ſhould be reſerved for an advanced ſtate of the diſeaſe.

Mucilaginous and oily dumulcents appear to be uſeful, by allaying that acrimony of the mucus which occaſions too frequent coughing; and which coughing prevents the ſtagnation and thickening of the mucus, and thereby its becoming mild.

The receiving into the lungs the ſteams of warm water impregnated with vinegar, has often proved uſeful in promoting expectoration*.

But, of all other remedies, the moſt powerful for this purpoſe, are antimonial medicines, given in nauſeating doſes, as in clxxix. Of theſe, however, I have not found the kermes mineral more efficacious than emetic tartar, or antimonial wine; and the doſe of the kermes is much more uncertain that that of the others.

CCCLXXIV.

Though a ſpontaneous ſweating often proves the criſis of this diſeaſe, it ought not to be excited by art, unleſs with much caution. At leaſt, I have not yet found it either ſo effectual or ſafe, as ſome writers have alledged. When, after ſome remiſſion of the ſymp-

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order to take a ſufficient quantity of the ſquills, ten grains of it containing only one grain of dry ſquills, ſuppoſing no ſyrup to be uſed in making the maſs. One convenience, indeed, attends this formula, viz. that we can give ſmall doſes with more preciſion than if we uſed the powder alone. The gum ammoniac is an expectorant; and therefore, when given along with the ſquills in theſe pills, may render a leſs doſe of the ſquills neceſſary. If the extract of liquorice be omitted, the proportion of the ſquills to the whole will be increaſed.

* Some practitioners propoſe the ſteam of vinegar alone; but it proves in general too irritating. The ſame objection may be made againſt uſing the ſteam of wine, which ſome practitioners have recommended inſtead of the ſteam of vinegar. Plain water is the beſt, as the warm vapour only acts by relaxing the internal ſurface of the lungs.

ſymptoms, ſpontaneous ſweats of a proper kind ariſe, they may be encouraged; but it ought to be without much heat, and without ſtimulant medicines. If, however, the ſweats be partial and clammy only, and a great difficulty of breathing ſtill remain, it wlll be very dangerous to encourage them.

CCCLXXV.

Phyſicians have differed much in opinion with regard to the uſe of opiates in pneumonic inflammation. To me it appears, that, in the beginning of the diſeaſe, and before bleeding and bliſtering have produced ſome remiſſion of the pain and of the difficulty of breathing opiates have a very bad effect, by their increaſing the difficulty of breathing, and other inflammatory ſymptoms. But in a more advanced ſtate of the diſeaſe, when the difficulty of breathing has abated, and when the urgent ſymptom is a cough, proving the chief cauſe of the continuance of the pain and of the want of ſleep, opiates may be employed with great advantage and ſafety, The interruption of the expectoration, which they ſeem to occaſion, is for a ſhort time only; and they ſeem often to promote it, as they occaſion a ſtagnation of what was by frequent coughing diſſipated inſenſibly, and therefore give the appearance of what phyſicians have called Concocted Matter.

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CHAP. VII.

OF THE PERIPNEUMONIA NOTHA, OR BASTARD PERIPNEUMONY.

CCCLXXVI.

A Diſeaſe under this name is mentioned in ſome medical writings of the ſixteenth century; but it is very doubtful if the name was then applied to the ſame diſeaſe to which we now apply it. It appears to me, that unleſs ſome of the caſes deſcribed under the title of Catarrhus Suffocativus be ſuppoſed to have been of the kind I am now to treat of, there was no deſcription of this diſeaſe given before that by Sydenham, under the title I have employed here.

CCCLXXVII.

After Sydenham, Boerhaave was the firſt who in a ſyſtem took notice of it as a diſtinct diſeaſe; and he has deſcribed it in his aphoriſms, although with ſome circumſtances different from thoſe in the deſcription of Sydenham. Of late, Mr. Lieutaud has with great confidence aſſerted, that Sydenham and Boerhaave had, under the ſame title, deſcribed different diſeaſes; and that, perhaps, neither of them had on this ſubject delivered any thing but hypotheſis.

CCCLXXVIII.

Notwithſtanding this bold aſſertion, I am humbly of opinion, and the Baron Van Swieten ſeems to have been of the ſame, that Sydenham and Boerhaave did deſcribe under the ſame title, one and the ſame diſeaſe. Nay, I am further of opinion, that the diſeaſe deſcribed by Mr. Lieutaud himſelf, is not eſſentially different from that deſcribed by both the other authors. Nor will the doubts of the very learned, but modeſt Morgagni, on this ſubject, diſturb us, if we conſider, that while very few deſcribers of diſeaſes either have it in their power, or have been ſufficiently attentive in diſtinguiſhing between the eſſential and accidental ſymptoms of diſeaſe; ſo, in a diſeaſe which may have not only different, but a greater number of ſymptoms, in one perſon than it has in another, we need not wonder that the deſcriptions of the ſame diſeaſe by different perſons ſhould come out in ſome reſpects different. I ſhall, however, enter no further into this controverſy; but endeavour to deſcribe the diſeaſe as it has appeared to myſelf; and, as I judge, in the eſſential ſymptoms, much the ſame as it has appeared to all the other authors mentioned.

CCCLXXIX.

This diſeaſe appears at the ſame ſeaſons that other pneumonic and catarrhal affections commonly do; that is, in autumn and ſpring. Like theſe diſeaſes, alſo, it is ſeemingly occaſioned by ſudden changes of the weather from heat to cold. It appears, alſo, during the prevalence of contagious catarrhs; and it is frequently under the form of the Peripneumonia Notha that theſe catarrhs prove fatal to elderly perſons.

This diſeaſe attacks moſt commonly perſons ſomewhat advanced in life, eſpecially thoſe of a full phlegmatic habit; thoſe who have before been frequently liable to catarrhal affections; and thoſe who have been much addicted to the large uſe of fermented and ſpiritous liquors.

The diſeaſe commonly comes on with the ſame ſymptoms as other febrile diſeaſes; that is, with alternate chills and heats; and the ſymptoms of pyrexia are ſometimes ſufficiently evident; but in moſt caſes theſe are very mod-rate, and in ſome hardly at all appear. With the firſt attack of the diſeaſe, a cough comes on; uſually accompanied with ſome expectoration, and in many caſes, there is a frequent throwing up of a conſiderable quantity of a viſcid opaque mucus. The cough often becomes frequent and violent; is ſometimes accompanied with a rending head-ach; and, as in other caſes of cough, a vomiting is ſometimes excited by it. The face is ſometimes fluſhed, and ſome giddineſs or drowſineſs often attends the diſeaſe. A difficulty of breathing, with a ſenſe of oppreſſion, or ſtraitening in the cheſt, with ſome obſcure pains there, and a ſenſe of laſſitude over the whole body, very conſtantly attend this diſeaſe. The blood drawn in this diſeaſe, ſhows a buffy ſurface, as in other inflammatory affections.

The diſeaſe has often the appearance only of a more violent catarrh, and after the employment of ſome remedies is entirely relieved by a free and copious expectoration. In other caſes, however, the feveriſh and catarrhal ſymptoms are at firſt very moderate, and even ſlight; but after a few days, theſe ſymptoms ſuddenly become conſiderable, and put an end to the patient's life when the indications of danger were before very little evident.

CCCLXXX.

From the different circumſtances in which this diſeaſe appears, the pathology of it is difficult. It is certainly often no other at firſt than a catarrhal affection, which, in elderly perſons, is frequently attended with a large afflux of mucus to the lungs; and it was on this footing that Sydenham conſidered it as only differing in degree from his *Febris Hyemalis*. A catarrh, however, is ſtrictly an affection of the mucous membrane and follicles of the bronchiæ alone: but it may readily have, and frequently has, a degree of pneumonic inflammation joined to it; and in that caſe may prove more properly the peculiar diſeaſe we treat of here. But, further, as pneumonic inflammation very often produces an effuſion of ſerum into the bronchiæ (cccxlviii.) ſo this, in elderly perſons, may occur in conſequence of a ſlight degree of inflammation; and when it does happen, will give the exquiſite and fatal caſes of the peripneumonia notha.

CCCLXXXI.

After this attempt to eſtabliſh the pathology, the method of cure in the different circumſtances of the diſeaſe will not be difficult.

In caſe the fever, catarrhal and pneumonic ſymptoms, are immediately conſiderable, a blood-letting will certainly be proper and neceſſary: but, where theſe ſymptoms are moderate, a blood-letting will hardly be requiſite; and, when an effuſion is to be feared, the repetition of blood-letting may prove extremely hurtful*.

In all caſes, the remedies chiefly to be depended upon, are vomiting† and bliſtering‡. Full vomiting may be frequently repeated, and nauſeating doſes‖ ought to be conſtantly employed.

Purging may perhaps be uſeful; but as it is ſeldom ſo in pneumonic affections, nothing but gentle laxatives are here neceſſary§.

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* The intention of bleeding in this diſeaſe is merely to facilitate the circulation through the lungs, and to relieve the oppreſſion in the breaſt, when this intention is therefore anſwered, and when the ſhortneſs of breath and oppreſſion about the breaſt are removed, there is no farther need of the lancet. As this diſeaſe chiefly attacks elderly perſons, and ſuch as are of a phlegmatic habit, much harm may be done by repeated bleedings, which always increaſe debility and retard the cure.

† Vomiting in this diſeaſe has been thought by many practitioners to be a doubtful remedy. The action of vomiting always oppreſſes the breaſt, and ſometimes even increaſes the ſymptoms of the diſeaſe.

‡ This is the chief remedy; and the bliſters ought to be applied as near the part affected as poſſible.

‖ In ſeveral of the former notes we have fully deſcribed the method of giving the emetic tartar in nauſeating doſes. Their principal effect is to procure a perſpiration, and, when this effect is produced, the patient muſt drink largely of any diluent or attenuating liquor, as thin barley-water, with the addition of the juice of ſome of the acid fruits, or infuſions of ſome of the gentle aromatics, as ſage, balm, mint, &c. or even a thin wine whey.

§ Purging is ſurely hurtful in this diſeaſe, by inducing too great a ſtate of debility; the inteſtines, however, are to be emptied in the beginning of the diſeaſe, which is beſt done by a purging glyſter, and kept open by the ſubſequent uſe of gentle laxatives, or by repetitions of mild emollient glyſters. The purging glyſter may be made as follows:

℞. Aq. font. lb. i.
Fol. Senn. ℥ſs.
Coque leniter, et colaturæ adde,
Sal. Cathart. ama, ℥i.

In all the circumſtances of the diſeaſe, the antiphlogiſtic regimen is proper : cold is to be guarded againſt ; but much external heat is to be as carefully avoided.

CCCLXXXII.

If a perſon ſweats eaſily, and it can be brought out by the uſe of mild tepid liquors only, the practice may in ſuch perſons be tried. See Morgagni *De Sed. et. Cauſ.* Epiſt. xiii. Art. 4.

CCCLXXXIII.

I might here, perhaps, give a ſeparate ſection on the Carditis and Pericarditis, or the inflammation of the heart and Pericardium ; but they hardly require a particular conſideration. An acute inflammation of the pericardium is almoſt always a part of the ſame pneumonic affection I have been treating of ; and is not always diſtinguiſhed by any different ſymptoms ; or, if it be, does not require any different treatment. The ſame may be ſaid of an acute inflammation of the heart itſelf ; and when it happens that the one or other is diſcovered by the ſymptoms of palpitation or ſyncope, no more will be implied than that the remedies of pneumonic inflammation ſhould be employed with greater diligence.

From diſſections, which ſhew the heart and pericardium affected with eroſions, ulcerations, and abſceſſes, we diſcover, that theſe parts had been before affected with inflammation ; and that in caſes where no ſymptoms of pneumonic inflammation had appeared :

Mel. ℥ii.
M. f. Enema.

The ſubſequent glyſters ought to conſiſt of nothing more than ſimple barley water, or milk and water. The laxatives, if they are uſed, ſhould be very gentle and mild ; as cream of tartar, whey, manna, tamarinds, &c. Half an ounce of manna diſſolved in half a pint of cream of tartar whey, makes an agreeable opening mixture ; half a tea-cupful of it may be taken three or four times a day, ſo as procure at leaſt two or three ſtools in the twenty-four hours.

ed: it may therefore be alleged, that thoſe inflammations of the heart and pericardium ſhould be conſidered as diſeaſes independent of the pneumonic. This indeed is juſt: but the hiſtory of ſuch caſes proves, that thoſe inflammations had been of a chronic kind, and hardly diſcovering themſelves by any peculiar ſymptoms; or, if attended with ſymptoms marking an affection of the heart, theſe were, however, ſuch as have been known frequently to ariſe from other cauſes than inflammation. There is therefore, upon the whole, no room for our treating particularly of the inflammation of the heart or pericardium.

CHAP. VIII.

OF THE GASTRITIS, OR INFLAMMATION OF THE STOMACH.

CCCLXXXIV.

AMONG the inflammations of the abdominal region, I have given a place in our Noſology to the Peritonitis; comprehending under that title, not only the inflammations affecting the peritonæum lining the cavity of the abdomen, but alſo thoſe affecting the extenſions of this membrane in the omentum and meſentery. It is not, however, propoſed to treat of them here, becauſe it is very difficult to ſay by what ſymptoms they are always to be known; and farther becauſe, when known, they do not require any remedies beſide thoſe of inflammation in general. I proceed, therefore, to treat of thoſe inflammations which, affecting viſcera of peculiar functions, both give occaſion to peculiar ſymptoms, and require ſome peculiarities in the method of cure: and I ſhall begin with the inflammation of the ſtomach.

CCCLXXXVI.

The inflammation of the ſtomach is of two kinds, Phlegmonic, or Erythematic*. The firſt may be ſeated in what is called the Nervous Coat of the ſtomach, or in the peritonæum inveſting it. The ſecond is always ſeated in the villous coat and cellular texture immediately ſubjacent.

CCCLXXXVI.

The phlegmonic inflammation of the ſtomach, or what has been commonly treated of under the title of Gaſtritis, is known by an acute pain in ſome part of the region of the ſtomach, attended with pyrexia, with frequent vomiting, eſpecially upon occaſion of any thing being taken down into the ſtomach, and frequently with hickup. The pulſe is commonly ſmall and hard; and there is a greater loſs of ſtrength in all the functions of the body, than in the caſe of almoſt any other inflammation.

CCCLXXXVII.

This inflammation may be produced by various cauſes; as, by external contuſion; by acrids of various kinds taken into the ſtomach; frequently by very cold drink taken into it while the body is very warm; and ſometimes by over-diſtenſion, from the having taken in a large quantity of food of difficult digeſtion. All theſe may be conſidered as external cauſes; but the diſeaſe ſometimes ariſes alſo from internal cauſes not ſo well underſtood. It may ariſe from inflammations of the neighbouring parts communicated to the ſtomach, and is then to be conſidered as a ſymptomatic affection only. It may ariſe alſo from various acrimonies generated within the body, either in the ſtomach itſelf, or in other parts, and poured into the cavity of the ſtomach. Theſe are cauſes more directly applied to the ſtomach; but there are perhaps others originating elſewhere, and affecting the ſtomach only ſympathetically. Such may be ſuppoſed to have acted in the caſe of putrid fevers and exanthematic pyrexiæ; in which, upon diſſection, it has been diſcovered that the ſtomach had been affected with inflammation.

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* This is a new term; but whoever conſiders what is ſaid in 274 will, I expect, perceive the propriety, and even the neceſſity, of it.

CCCLXXXVIII.

From the ſenſibility of the ſtomach, and its communication with the reſt of the ſyſtem, it will be obvious, that the inflammation of this organ, by whatever cauſes produced, may be atttended with fatal conſequences. In particular, by the great debility which ſuch an inflammation ſuddenly produces, it may quickly prove fatal, without running the common courſe of inflammations.

When it laſts long enough to follow the ordinary courſe of other inflammations, it may terminate by reſolution, gangrene, or ſuppuration. The ſcirrhoſities which are often diſcovered affecting the ſtomach, are ſeldom known to be the conſequences of inflammation.

CCCLXXXIX.

The tendency of this diſeaſe to admit of reſolution, may be known by its having ariſen from no violent cauſe; by the moderate ſtate of the ſymptoms; and by a gradual remiſſion of theſe, eſpecially in conſequence of remedies employed in the courſe of the firſt, or at fartheſt the ſecond week of the diſeaſe.

CCCXC.

The tendency to ſuppuration may be known by the ſymptoms continuing, in a moderate degree, for more than one or two weeks; and likewiſe by a conſiderable remiſſion of the pain, while a ſenſe of weight and an anxiety ſtill remain.

When an abſceſs has been formed, the frequency of the pulſe is at firſt abated; but ſoon after, it is again,

gain increaſed, with frequent cold ſhiverings, and with marked exacerbations in the afternoon and evening, followed by night-ſweatings, and other ſymptoms of hectic fever. Theſe at length prove fatal, unleſs the abſceſs open into the cavity of the ſtomach, the pus be evacuated by vomiting, and the ulcer ſoon heal.

CCCXCI.

The tendency to gangrene may be ſuſpected from the violence of the ſymptoms not yielding to the remedies employed during the firſt days of the diſeaſe: and that a gangrene has already begun, may be known from the ſudden remiſſion of the pain, while the frequency of the pulſe continues, and at the ſame time becomes weaker, accompanied with other marks * of an increaſing debility in the whole ſyſtem.

CCCXCII.

From the diſſection of dead bodies it appears, that the ſtomach very often has been affected with inflammation, when the characteriſtic ſymptoms of it (ccclxxxvi.) had not appeared; and therefore it is very difficult to lay down any general rules for the cure of this diſeaſe.

CCCXCIII.

It is only in the caſe of phlegmonic inflammation, characteriſed in ccclxxxvi. that we can adviſe the cure or reſolution to be attempted by large and repeated bleedings employed early in the diſeaſe: and we are not to be deterred from theſe by the ſmallneſs of the pulſe; for, after bleeding, it commonly becomes fuller and ſofter. After bleeding, a bliſter ought to be applied to the region of the ſtomach; and the cure will be aſſiſted by fomentations of the whole abdomen, as well as by frequent emollient and laxative glyſters.

CCCXCIV.

In this diſeaſe, the irritability of the ſtomach will not admit of any medicines being thrown into it; and if any internal medicines can be ſuppoſed neceſſary, they

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* A delirium is one of the moſt general concomitants of the increaſing debility of the ſyſtem, and may be conſidered as a diagnoſtic.

they muſt be exhibited in glyſters. The giving of drink may be tried; but it ought to be of the very mildeſt kind, and in very ſmall quantities at a time*.

CCCXCV.

Opiates, in whatever manner exhibited, are very hurtful during the firſt days of the diſeaſe; but when its violence ſhall have abated, and when the violence of the pain and vomiting recur at intervals only, opiates given in glyſters may be cautiouſly tried, and ſometimes have been employed with advantage.

CCCXCVI.

A tendency to ſuppuration, in this diſeaſe, is to be obviated by the means juſt now propoſed. After a certain duration of the diſeaſe, it cannot be prevented by any means whatever; and when actually begun, muſt be left to nature; the buſineſs of the phyſician being only to avoid all irritation.

CCCXCVII.

A tendency to gangrene can be obviated in no other way than by the means ſuggeſted cccxciii. employed early in the diſeaſe; and, when it does actually ſupervene, admits of no remedy.

CCCXCVIII.

Erythematic inflammations of the ſtomach, are more frequent than thoſe of the phlegmonic kind. It appears, at leaſt, from diſſections, that the ſtomach has often been affected with inflammation, when neither pain nor pyrexia had before given any notice of it; and ſuch inflammation I apprehend to have been chiefly of the erythematic kind. This ſpecies of inflammation alſo, is eſpecially to be expected from acrimony of any kind thrown into the ſtomach; and would certainly occur more frequently from ſuch a cauſe, were not the interior ſurface of this organ commonly defended by mucus exuding in large quantity from the numerous follicles placed immediately under the villous coat. Upon many occaſions, however, the exudation of mucus is prevented, or the liquid poured out is of a leſs viſcid kind, ſo as to be leſs fitted to defend the ſubjacent nerves; and it is in ſuch caſes that matters even of moderate acrimony, may produce an erythematic affection of the ſtomach.

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* Chicken-broth is extremely mild; it may be taken in ſmall quantities, with about eight or ten grains of nitre in every pint of it. Lintſeed tea is alſo a very mild drink; and, if the inflammation be owing to the preſence of any acrid matter irritating the ſtomach, it is of great ſervice by its ſheathing quality.

CCCXCIX.

From what has been ſaid, it muſt appear that an erythematic inflammation of the ſtomach may frequently occur; but will not always diſcover itſelf, as it ſometimes takes place without pyrexia, pain, or vomiting.

CCCC.

There are caſes, however, in which it may be diſcovered. The affection of the ſtomach ſometimes ſpreads into the œſophagus, and appears in the pharynx, as well as on the whole internal ſurface of the mouth. When, therefore, an erythematic inflammation affects the mouth and fauces, and when at the ſame time there ſhall be in the ſtomach an unuſual ſenſibility to all acrids, with a frequent vomiting, there can be little doubt of the ſtomach being affected with the ſame inflammation that has appeared in the fauces. Even when no inflammation appears in the fauces, yet if ſome degree of pain be felt in the ſtomach, if there be a want of appetite, an anxiety, frequent vomiting, an unuſual ſenſibility with reſpect to acrids, ſome thirſt, and frequency of pulſe, there will then be room to ſuſpect an erythematic inflammation of the ſtomach; and we have known ſuch ſymptoms, after ſome time, diſcover their cauſe more clearly by the appearance of the inflammation in the fauces or mouth.

Erythematic inflammation is often diſpoſed to ſpread from one place to another on the ſame ſurface; and, in doing ſo, to leave the place it had firſt occupied. Thus, ſuch an inflammation has been known to ſpread ſucceſſively along the whole courſe of the alimentary

limentary canal, occaſioning in the inteſtines diarrhœa, and in the ſtomach vomitings; the diarrhœa ceaſing when the vomitings came on, or the vomitings upon the coming on of the diarrhœa.

CCCCI.

When an erythematic inflammation of the ſtomach ſhall be diſcovered, it is to be treated differently, according to the difference of its cauſes and ſymptoms. When it is owing to acrid matters taken in by the mouth, and when theſe may be ſuppoſed ſtill preſent in the ſtomach, they are to be waſhed out by throwing in a large quantity of warm and mild liquids, and by exciting vomiting. At the ſame time, if the nature of the acrimony and its proper corrector be known, this ſhould be thrown in; or if a ſpecific corrector be not known, ſome general demelcents ſhould be employed.

CCCCII.

Theſe meaſures, however, are more ſuited to prevent the inflammation, than to cure it after it has taken place. When this laſt may be ſuppoſed to be the caſe, if it be attended with a ſenſe of heat, with pain and pyrexia, according to the degree of theſe ſymptoms the meaſures propoſed in cccxciii. are to be more or leſs employed.

CCCCIII.

When an erythematic inflammation of the ſtomach has ariſen from internal cauſes, if pain and pyrexia accompany the diſeaſe, ſome bleeding, in perſons not otherwiſe weakened, may be employed: but, as the affection often ariſes in putrid diſeaſes, and in convaleſcents from fever; ſo in theſe caſes, bleeding is inadmiſſible; all that can be done being to avoid irritation, and to throw into the ſtomach what quantity of acids, and of aſceſcent aliments, it ſhall be found to bear.

In ſome conditions of the body in which this diſeaſe ariſes, the Peruvian bark and bitters may ſeem to be indicated; but an erythematic ſtate of the ſtomach does not commonly allow of them.

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CHAP. IX.

OF THE ENTERITIS, OR INFLAMMATION OF THE INTESTINES.

CCCCIV.

THE inflammation of the inteſtines, like that of the ſtomach, may be either phlegmonic, or erythematic: but, on the ſubject of the latter, I have nothing to add to what has been ſaid in the laſt chapter; and ſhall here therefore treat of the phlegmonic inflammation only.

CCCCVI.

This* inflammation may be known to be preſent, by a fixed pain of the abdomen, attended with pyrexia, coſtiveneſs, and vomiting. Practical writers mention the pain in this caſe as felt in different parts of the abdomen, according to the different ſeat of the inflammation; and ſo, indeed, it ſometimes happens; but very often the pain ſpreads over the whole belly, and is felt more eſpecially about the navel.

CCCCVII.

The Enteritis and Gaſtritis ariſe from like cauſes; but the former more readily than the latter, proceeds from cold applied to the lower extremities, or to the belly itſelf. The enteritis has likewiſe its own peculiar cauſes, as ſupervening upon the ſpaſmodic cholic, incarcerated hernia, and volvulus.

CCCCVIII.

Inflammations of the inteſtines have the ſame terminations as thoſe of the ſtomach; and, in both caſes, the ſeveral tendencies are to be diſcovered by the ſame ſymptoms (ccclxxxix.—cccxci).

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* The articles were thus numbered in the laſt edition.

CCCCIX.

The cure of the interitis is, in general, the ſame with that of the gaſtritis; (cccxciii. and ſeq.) but in the interitis, there is commonly more acceſs to the introduction of liquids, of acids, aceſcent, and other cooling remedies, and even of laxatives*. As, howe-

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* In this diſeaſe, we ought to be extremely cautious in the adminiſtration either of the medicines or diluents. The reaſon is evident from the following conſiderations. In every caſe of inflammation of a canal, the bore of that canal is diminiſhed, and frequently quite ſhut. A quantity of any kind of ingeſta being forced againſt this obſtruction, muſt neceſſarily increaſe the irritation, and conſequently aggravate all the ſymptoms. The ſame reaſon may be given for the caution neceſſary in preſcribing laxatives, which always irritate; for their action generally depends upon the irritation they produce. Large bleedings, emollient glyſters frequently repeated, fomentations, the warm bath, and ſmall anodyne glyſters occaſionally injected, are the moſt effectual remedies in the firſt ſtage of this violent diſeaſe. When the pain remits, and the violence of the ſymptoms abates, mild diluents may then be admitted, as chicken-broth, thin lintſeed-tea, &c. and, if ſuch liquors be retained without aggravating the ſymptoms, we may then venture to give an ounce of manna every three or four hours, till it procures a paſſage.

The internal uſe of opium has been extolled by ſeveral practitioners in theſe caſes; but experience ſhews that it generally does harm in every caſe of inflammation, eſpecially in the early ſtages of it.

The anodyne glyſter is the ſafeſt method of uſing opium; but glyſters of this kind are ſaid to obſtruct: This objection is, however, ill founded; for, by diminiſhing the irritation, they evidently tend to reſolve the inflammation. The following formula of an anodyne glyſter is generally uſed:

℞. Decoct. hord. ℥ir.
Opii puri gr. iv.
M.

In theſe glyſters, particular care muſt be taken to avoid every thing that has the leaſt tendency to irritate. If a gangrene be formed before the phyſician be called, as is too frequently the caſe, then all remedies are in vain.

ver, a vomiting ſo frequently attends this diſeaſe, care muſt be taken not to excite that vomiting by either the quantity or the quality of any thing thrown into the ſtomach.

The ſame obſervation, with reſpect to the uſe of opiates, is to be made here as in the caſe of gaſtritis.

CCCCX.

Under the title of Enteritis, it has been uſual with practical writers to treat of the remedies proper for the cholic†, and its higher degree named *Ileus:* but, although it be true that the enteritis and cholic do frequently accompany each other, I ſtill hold them to be diſtinct diſeaſes, to be often occurring ſeparately, and accordingly to require and admit of different remedies. I ſhall therefore delay ſpeaking of the remedies proper for the cholic, till I ſhall come to treat of this diſeaſe in its proper place.

CCCCXI.

What might be mentioned with reſpect to the ſuppuration or gangrene occurring in the enteritis, may be ſufficiently underſtood from what has been ſaid on the ſame ſubject with reſpect to the gaſtritis.

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C H A P. X.

OF THE HEPATITIS, OR INFLAMMATION OF THE LIVER.

CCCCXII.

THE inflammation of the liver ſeems to be of two kinds; the one acute, the other chronic.

CCCCXIII.

The acute is attended with pungent pain; conſideraderable pyrexia; a frequent, ſtrong, and hard pulſe; and high-coloured urine.

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† See par. 435.

CCCCXIV.

The chronic hepatitis very often does not exhibit any of theſe ſymptoms; and it is only diſcovered to have have happened, by our finding in the liver, upon diſſection, large abſceſſes, which are preſumed to be the effect of ſome degree of previous inflammation. As this chronic inflammation is ſeldom to be certainly known, and therefore does not lead to any determined practice, we omit treating of it here, and ſhall only treat of what relates to the acute ſpecies of the hepatitis*.

CCCCXV.

The acute hepatitis may be known by a pain more or leſs acute in the right hypochondrium, increaſed by preſſing upon the part. The pain is very often in ſuch a part of the ſide as to make it appear like that of a pleuriſy; and frequently, like that too, is increaſed on reſpiration. The diſeaſe is, in ſome inſtances, alſo attended with a cough, which is commonly dry, but ſometimes humid; and when the pain thus reſembles that of a pleuriſy, the patient cannot lye eaſily except upon the ſide affected.

In every kind of acute hepatitis, the pain is often extended to the clavicle, and to the top of the ſhoulder. The diſeaſe is attended ſometimes with hickup, and ſometimes with vomiting. Many practical writers have mentioned the jaundice, or a yellow colour of the ſkin and eyes, as a very conſtant ſymptom of of the hepatitis; but experience has ſhown, that it may often occur without any ſuch ſymptom †.

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* It is doubtful whether this chronic hepatitis ever exiſts.

† This ſymptom generally appears, however, after the diſeaſe has continued for three or four days; perhaps, indeed, it might have been preſent in the beginning, for it is frequently ſo ſlight as to eſcape obſervation.

CCCCXVI.

The remote cauſes of hepatitis are not always to be diſcerned, and many have been aſſigned on a very uncertain foundation. The following ſeem to be frequently evident. 1. External violence from contuſions or falls, and eſpecially thoſe which have occaſioned a fracture of the cranium. 2. Certain paſſions of the mind. 3. Violent ſummer-heats. 4. Violent exerciſe. 5. Intermittent and remittent fevers. 6. Cold applied externally and internally; and therefore, in many caſes the ſame cauſes which produce pneumonic inflammation, produce hepatitis; and whence alſo the two diſeaſes are ſometimes joined together. 7. Various ſolid concretions or collections of liquid matter, in the ſubſtancc of the liver, produced by unknown cauſes. Laſtly, The acute is often induced by a chronic inflammation of this viſcus.

CCCCXVII.

It has been ſuppoſed, that the hepatitis may be an affection either of the extremities of the hepatic artery, or of thoſe of the vena potarum; but of the laſt ſuppoſition there is neither evidence nor probability.

CCCCXVIII.

It ſeems probable, that the acute hepatitis is always an affection of the external membrane of the liver, and that the parenchymatic is of the chronic kind. The acute diſeaſe may bc ſeated either on the convex or on the concave ſurface of the liver. In the former caſe, a more pungent pain and hickup may be produced, and the reſpiration is more conſiderably affected. In the latter, there occurs leſs pain; and a vomiting is produced, commonly by ſome inflammation communicated to the ſtomach. The inflammation of the concave ſurface of the liver, may be readily communicated to the gall-bladder and biliary ducts; and this perhaps is the only caſe of idiopathic hepatitis attended with jaundice.

CCCCXIX.

The hepatitis, like other inflammations, may end by reſolution, ſuppuration, or gangrene; and the tendency to the one or the other of theſe events, may be known from what has been delivered above.

CCCCXX.

The reſolution of hepatitis is often the conſequence of, or is attended with, evacuations of different kinds. A hemorrhagy, ſometimes from the* right noſtril, and ſometimes from the hemorrhoidal veſſels, gives a ſolution of the diſeaſe. Sometimes a bilious diarrhœa contributes to the ſame event; and the reſolution of the hepatitis, as of other inflammations, is attended with ſweating, and with an evacuation of urine depoſiting a copious ſediment. Can this diſeaſe be reſolved by expectoration? It would ſeem to be ſometimes cured by an eryſipelas appearing in ſome external part.

CCCCXXI.

When this diſeaſe has ended in ſuppuration, the pus collected may be diſcharged by the biliary ducts; or, if the ſuppurated part does not any where adhere cloſely to the neighbouring parts, the pus may be diſcharged into the cavity of the abdomen: but if, during the firſt ſtate of inflammation, the affected part of the liver ſhall have formed a cloſe adheſion to ſome of the neighbouring parts, the diſcharge of the pus after ſuppuration may be various, according to the different ſeat of the abſceſs. When ſeated on the convex part of the liver, if the adheſion be to the peritonæum lining the common teguments, the pus may make its way through theſe, and be diſcharged outwardly: or, if the adheſion ſhould have been to the diaphragm, the pus may penetrate through this, and into the cavity of the thorax, or of the lungs; and through the latter may be diſcharged by coughing. When the abſceſs of the liver is ſeated on its concave part, then, in conſequence of adheſions, the pus may be diſcharged into the ſtomach or the inteſtines; and into theſe laſt, either directly, or by the intervention of the biliary ducts.

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* And the left alſo. It was a fancy of Galen's that inflammatory fevers were only reſolved by ſuch hemorrhage from the right noſtril, and reſolved an inflammatory of the liver; but a diſcharge from the left, an inflammation of the ſpleen.

CCCCXXII.

The prognoſtics in this diſeaſe are eſtabliſhed upon the general principles relating to inflammation, upon the particular circumſtances of the liver, and upon the particular ſtate of its inflammation.

The cure of this diſeaſe muſt proceed upon the general plan; by bleeding, more or leſs, according to the urgency of pain and pyrexia; by the application of bliſters; by fomentations, of the external parts in the uſual manner, and of the internal parts by frequent emollient glyſters; by frequently opening the belly by means of gentle laxatives, and by diluent and refrigerant remedies.

CCCCXXIII.

Although, in many caſes, the chronic hepatitis does not clearly diſcover itſelf; yet, upon many occaſions, it may perhaps be diſcovered, or at leaſt ſuſpected, from thoſe cauſes which might affect the liver (cccxvi.) having been applied; from ſome fulneſs and ſome tenſeneſs of weight in the right hypochondrium; from ſome ſhooting pains at times felt in that region; from ſome uneaſineſs or pain felt upon preſſure in that part; from ſome uneaſineſs from lying upon the left ſide; and laſtly, from ſome degree of pyrexia, combined with more or fewer of theſe ſymptoms.

When from ſome of theſe circumſtances a chronic inflammation is to be ſuſpected, it is to be treated by the ſame remedies as in the laſt paragraph, employed more or leſs, as the degree of the ſeveral ſymptoms ſhall more diſtinctly indicate.

CCCCXXIV.

When from either kind of inflammation a ſuppuration of the liver has been formed, and the abſceſs points outwardly, the part muſt be opened, the pus evacuated, and the ulcer healed according to the ordinary rules for cleanſing and healing ſuch abſceſſes and ulcers.

CCCCXXV.

I might here conſider the Splenitis, or inflammation of the ſpleen; but it does not ſeem neceſſary, becauſe the diſeaſe very ſeldom occurs. When it does, it may be readily known by the character given in our Noſology; and its various termination, as well as the practice which it requires, may be underſtood from what has been already ſaid with reſpect to the inflammations of the other abdominal viſcera.

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CHAP. IX.

OF THE NEPHRITIS, OR THE INFLAMMATION OF THE KIDNEYS.

CCCCXXVI.

THIS diſeaſe, like other internal inflammations, is always attended with pyrexia; and is eſpecially known from the region of the kidney being affected by pain, commonly obtuſe, ſometimes pungent. This pain is not increaſed by the motion of the trunk of the body, ſo much as a pain of the rheumatic kind affecting the ſame region. The pain of the nephritis may be often diſtinguiſhed by its ſhooting along the courſe of the ureter; and is frequently attended with a drawing up of the teſticle, and with a numbneſs of the limb on the ſide affected; although, indeed, theſe ſymptoms moſt commonly accompany the inflammation ariſing from a calculus in the kidney or in the ureter. The nephritis is almoſt conſtantly attended with frequent vomiting, and alſo with coſtiveneſs and cholic pains. Uſually the ſtate of the urine is changed; it is moſt commonly of a deep red colour, is voided frequently and in ſmall quantity at a time. In more violent caſes, the urine is ſometimes colourleſs.

CCCCXXVII.

The remote cauſes of this diſeaſe may be various: as, external contuſion; violent or long-continued riding; ſtrains of the muſcles of the back incumbent on the kidneys; various acrids in the courſe of the circulation conveyed to the kidneys; and perhaps ſome other internal cauſes not yet well known. The moſt frequent is that of calculous matter obſtructing the tubuli uriniferi, or calculi formed in the pelvis of the kidneys, and either ſticking there, or fallen into the ureter.

CCCCXXVIII.

The various event of this diſeaſe may be underſtood from what has been delivered on the ſubject of other inflammations.

CCCCXXIX.

Writers, in treating of the cure of nephritis, have commonly at the ſame time treated of the cure of the Calculus Renalis: but, though this may often produce nephritis, it is to be conſidered as a diſtinct and ſeparate diſeaſe; and what I have to offer as to the mode of treating it, muſt be reſerved to its proper place. Here I ſhall treat only of the cure of the Nephritis Vera or Idiopathica.

CCCCXXX.

The cure of this proceeds upon the general plan, by bleeding, external fomentation, frequent emollient glyſters, antiphlogiſtic purgatives, and the free uſe of mild and demulcent liquids*. The application of bliſters is hardly admiſſible; or, at leaſt, will require great care, to avoid any conſiderable abſorption of the cantharides*.

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* Theſe have all been enumerated in ſome of the preceding notes.

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* This is a very neceſſary caution. Bliſters generally affect the urinary organs and veſſels, occaſioning much irritation, and conſequently increaſing the inflammation. As the author is rather ſhort in his directions for the cure of this very troubleſome inflammation, it may be proper to add ſome particular directions for regulating our practice in theſe caſes.

An ulcer in the kidneys is extremely difficult to heal; we ought therefore always to attempt the cure of nephritis by reſolution. The general remedies for anſwering this intention have been frequently enumerated, eſpecially in the notes on Art. 130, 131.--- The particular remedies more peculiarly adapted to this diſeaſe are demulcent drinks of the ſofteſt nature, and ſuch as are leaſt apt to irritate the parts; as lintſeed-tea, decoction of marſhmallows, &c. Nitre has been recommended among the general antiphlogiſtic remedies; but, in nephritis its uſe is doubtful, on account of its paſſing quickly by the kidneys, and irritating them.

A difficulty of making water is one of the ſymptoms of this diſeaſe, and ſome practitioners recommend heating diuretics. This practice, however, is extremely hurtful, and ought to be carefully avoided, becauſe theſe warm medicines, as turpentines, balſams, &c. always increaſe the irritation, eſpecially in the urinary paſſages.

As the colon preſſes immediately on the kidneys, eſpecially on the right one, we ſhould be particularly careful to keep it empty; which is beſt done by glyſters. Beſide the uſe of glyſters in evacuating the contents of the colon, they act as a fomentation to the inflamed part; we ought therefore, in theſe caſes, to preſcribe them larger than uſual, and repeat them often. They ought to be extremely emollient, and void of every ingredient that is any way ſtimulating. A quart of thin barley-water or lintſeed-tea anſwers the purpoſe as completely as any of the more compound emollient glyſters of the Pharmacopœias. With reſpect to diet and regimen, we may obſerve that lenient nouriſhment is highly proper; for every thing acrid naturally forces itſelf off by the urine, and conſequently increaſes the irritation. A total abſtinence from food is by no means adviſable, becauſe, from abſtinence, little urine is ſecreted, and the ſmaller the quantity ſecreted it is generally the more acrid, and conſequently noxious. The patient ought to be made to ſit up as much as poſſible. Warm ſoft beds, which are always improper in all inflammatory diſeaſes, are peculiarly hurtful in nephritis, eſpecially if the patient lies on his back; for in this poſition the kidneys

CCCCXXXI.

The Cyſtitis, or inflammation of the bladder, is ſeldom a primary diſeaſe; and therefore is not to be treated of here. The treatment of it, ſo far as neceſſary to be explained, may be readily underſtood from what has been already delivered.

CCCCXXXII.

Of the viſceral inflammations, there remains to be conſidered the inflammation of the Uterus; but I omit it here, becauſe the conſideration of it cannot be ſeparated from that of the diſeaſes of child-bearing women.

CHAP. XII.

OF THE RHEUMATISM.

CCCCXXXIII.

OF this diſeaſe there are two ſpecies, the one named the Acute, the other the Chronic rheumatiſm.

ACCCXXXIV.

It is the acute Rheumatiſm which eſpecially belongs to this place, as from its cauſes, ſymptoms, and methods of cure, it will appear to be a ſpecies of phlegmaſia or inflammation.

CCCCXXXV.

are kept very warm, and are at the ſame time preſſed by the ſuperincumbent weight of the abdominal viſcera, all which will contribute to increaſe the inflammation. Although lying much in bed be diſapproved, the patient ought by no means to be overfatigued with ſitting too long. The room ſhould be moderately cool, and the bed ſpringy, but not ſoft. In addition to what was ſaid above reſpecting bliſters in this diſeaſe, it may be neceſſary to obſerve, that other veſicants beſides cantharides may be uſed, ſuch as muſtard poultices, commonly called ſinapiſms, a poultice of freſh leaves of the ranunculus acris, and other acrid plants.

CCCCXXXV.

This diſeaſe is frequent in cold, and more uncommon in warm climates. It appears moſt frequently in autumn and ſpring, leſs frequently in winter when the cold is conſiderable and conſtant, and very ſeldom during the heat of ſummer. It may occur, however, at any ſeaſon, if viciſſitudes of heat and cold be for the time frequent.

CCCCXXXVI.

The acute rheumatiſm generally ariſes from the application of cold to the body when any way unuſually warm; or when one part of the body is expoſed to cold whilſt the other parts are kept warm; or, laſtly, when the application of the cold is long continued, as it is when wet or moiſt clothes are applied to any part of the body.

CCCCXXXVII.

Theſe cauſes may affect perſons of all ages; but the rheumatiſm ſeldom appears in either very young or elderly perſons, and moſt commonly occurs from the age of puberty to that of thirty-five years*.

CCCCXXXVIII.

Theſe cauſes (ccccxxxvi.) may alſo affect perſons of any conſtitution; but they moſt commonly affect thoſe of a ſanguine temperament.

CCCCXXXIX.

This diſeaſe is particularly diſtinguiſhed by pains affecting the joints, for the moſt part the joints alone, but ſometimes affecting alſo the muſcular parts. Very often the pains ſhoot along the courſe of the muſcles, from one joint to another, and are always much increaſed by the action of the muſcles belonging to the joint or joints affected.

CCCCXL.

The larger joints are moſt frequently affected; ſuch as

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* There are many inſtances, however, of rheumatiſm extremely acute in old people.

the hip-joint, and knees of the lower, and the ſhoulders and elbows of the upper, extremities. The ankles and wriſts are alſo frequently affected; but the ſmaller joints, ſuch as thoſe of the toes or fingers, ſeldom ſuffer.

CCCCXLI.

This diſeaſe although confined to one part of the body only, yet very often affects many parts of it; and then it comes on with a cold ſtage, which is immediately ſucceeded by the other ſymptoms of pyrexia, and particularly by a frequent, full, and hard pulſe. Sometimes the pyrexia is formed before any pains are perceived; but more commonly pains are felt in particular parts, before any ſymptoms of pyrexia appear.

CCCCXLII.

When no pyrexia is preſent, the pain is ſometimes confined to one joint only; but, when any conſiderable pyrexia is preſent, although the pain may be chiefly in one joint, yet it ſeldom happens but that the pains affect ſeveral joints often at the very ſame time, but for the moſt part ſhifting their place, and, having abated in one joint, become more violent in another. They do not commonly remain long in the ſame joint, but frequently ſhift from one to another, and ſometimes return to joints formerly affected; and in this manner the diſeaſe often continues for a long time.

CCCCXLIII.

The pyrexia attending this diſeaſe has an exacerbation every evening, and is moſt conſiderable during the night, when the pains alſo become more violent; and it is at the ſame time that the pains ſhift their place from one joint to another. The pains ſeem to be alſo increaſed during the night, by the body being covered more cloſely, and kept warmer.

CCCCXLIV.

A joint, after having been for ſome time affected with pain, commonly becomes affected alſo with ſome redneſs and ſwelling, which is painful to the touch. It ſeldom happens, that a ſwelling coming on does not alleviate the pain of the joint; but the ſwelling does always take off the pain entirely, nor ſecure the joint againſt a return of it.

CCCCXLV.

This diſeaſe is commonly attended with ſome ſweating, which occurs early in the courſe of the diſeaſe; but it is ſeldom free or copious, and ſeldom either relieves the pains or proves critical.

CCCCXLVI.

In the courſe of this diſeaſe the urine is high coloured, and in the beginning without ſediment; but as the diſeaſe advances, and the pyrexia has more conſiderable remiſſions, the urine depoſites a lateritious ſediment. This, however, does not prove entirely critical; for the diſeaſe often continues long after ſuch a ſediment has appeared in the urine.

CCCCXLVII.

When blood is drawn in this diſeaſe it always exhibits the appearance mentioned ccxxxvii.

CCCCXLVIII.

The acute rheumatiſm, though it has ſo much of the nature of the other phlegmaſiæ, differs from all thoſe hitherto mentioned, in this, that it is not apt to terminate in ſuppuration. This almoſt never happens in rheumatiſm: but the diſeaſe ſometimes produces effuſions of a tranſparent gelatinous fluid into the ſheaths of the tendons. If we may be allowed to ſuppoſe that ſuch effuſions are frequent, it muſt alſo happen, that the effuſed fluid is commonly reabſorbed; for it has ſeldom happened, and never indeed to my obſervation, that conſiderable or permanent tumours, have been produced, or ſuch as require to be opened, and to have the contained fluid evacuated. Such tumours, however, have occurred to others, and the opening made in them has produced ulcers difficult to heal. Vide Storck. Ann. Med. II.

CCCCXLIX.

With the circumſtances mentioned from ccccxxxix. to ccccxlviii. the diſeaſe often continues for ſeveral weeks. It ſeldom, however, prove fatal ; and it rarely happens that the pyrexia continues to be conſiderable for more than two or three weeks. While the pyrexia abates in its violence, if the pains of the joints continue, they are leſs violent, more limited in their place, being confined commonly to one or a few joints only, and are leſs ready to change their place.

CCCCL.

When the pyrexia attending rheumatiſm has entirely ceaſed; when the ſwelling, and particularly the redneſs of the joints, are entirely gone ; but when pains ſtill continue to affect certain joints, which remain ſtiff, which feel uneaſy upon motion, or upon changes of weather, the diſeaſe is named the Chronic Rheumatiſm, as it very often continues for a long time. As the chronic is commonly the ſequel of the acute rheumatiſm, I think it proper to treat of the former alſo in this place.

CCCCLI.

The limits between the acute and chronic rheumatiſm are not always exactly marked.

When the pains are ſtill ready to ſhift their place ; when they are eſpecially ſevere in the night time ; when, at the ſame time, they are attended with ſome degree of pyrexia, and with ſome ſwelling, and eſpecially with ſome redneſs of the joints ; the diſeaſe is to be conſidered as ſtill partaking the nature of the acute rheumatiſm.

But, when there is no degree of pyrexia remaining ; when the pained joints are without redneſs ; when they are cold and ſtiff ; when they cannot eaſily be made to ſweat ; or when, while a free and warm ſweat is brought out on the reſt of the body, it is only clammy and cold on the pained joints; and when, eſpecially, the pains of theſe joints are increaſed by cold, and relieved by heat applied to them; the caſe is to be conſidered as that of a purely chronic rheumatiſm.

CCCCLII.

The chronic rheumatiſm may affect different joints; but is eſpecially ready to affect thoſe joints which are ſurrounded with many muſcles, and thoſe of which the muſcles are employed in the moſt conſtant and vigorous exertions. Such is the caſe of the vertebræ of the loins, the affection of which is named Lumbago; or that of the hip-joint, when the diſeaſe is named Iſchias, or Sciatica.

CCCCLIII.

Violent ſtrains and ſpaſms occurring on ſudden and ſomewhat violent exertions, bring on rheumatic affections, which at firſt partake of the acute, but very ſoon change into the nature of the chronic rheumatiſm.

CCCCLIV.

I have thus delivered the hiſtory of rheumatiſm; and ſuppoſe, that, from what has been ſaid, the remote cauſes, the diagnoſis, and prognoſis of the diſeaſe, may be underſtood. The diſtinction of the rheumatic pains from thoſe reſembling them, which occur in the ſyphilis and ſcurvy, will be obvious, either from the ſeat of thoſe pains, or from the concomitant ſymptoms peculiar to theſe diſeaſes *. The diſtinction of rheu-

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* To diſtinguiſh the chronic rheumatiſm from venereal or ſcorbutic pains, is, however, in ſome caſes, extremely difficult, and often requires the utmoſt ſagacity of the practitioner. A due attention to the cauſes of rheumatiſm, recited in the foregoing articles, and a ſtrict examination whether the patient has been ſubjected to theſe cauſes, will ſometimes determine the diſeaſe: but it often happens, that the ſame cauſes which produce rheumatiſm, alſo exacerbate venereal and ſcorbutic pains. No general rules can be delivered on this ſubject; and the practitioner muſt truſt to his own ſagacity for direction in this difficult diagnoſis.

rheumatiſm from gout will be more fully underſtood from what is to be delivered in the following chapter.

CCCCLV.

With reſpect to the proximate cauſe of rheumatiſm, there have been various opinions. It has been imputed to a peculiar acrimony; of which, however, in ordinary caſes, I can find no evidence; and from the conſideration of the remote cauſes, the ſymptoms, and cure of the diſeaſe, I think the ſuppoſition very improbable.

The cauſe of an Iſchias Nervoſa aſſigned by COTUNNIUS, appears to me hypothetical, and is not ſupported by either the phenomena or method of cure. That, however, a diſeaſe of a rheumatic nature may be occaſioned by an acrid matter applied to the nerves, is evident from the toothach, a rheumatic affection generally ariſing from a carious tooth.

That pains reſembling thoſe of rheumatiſm may ariſe from deep-ſeated ſuppurations, we know from ſome caſes depending on ſuch a cauſe, and which, in their ſymptoms, reſemble the lumbago or iſchias. I believe, however, that by a proper attention, theſe caſes depending on ſuppuration, may be commonly diſtinguiſhed from the genuine caſes of lumbago and iſchias; and, from what is ſaid in ccccxlviii. I judge it to be at leaſt improbable, that a genuine lumbago or iſchias does ever end in ſuppuration.

CCCCLVI.

The proximate cauſe of rheumatiſm has been by many ſuppoſed to be a lentor of the fluids obſtructing the veſſels of the part; but the ſame conſideration as in ccxli. 1, 2, 3, 4, and 5, will apply equally here for rejecting the ſuppoſition of a lentor.

CCCCLVII.

While I cannot, therefore, find either evidence or reaſon for ſuppoſing that the rheumatiſm depends upon any change in the ſtate of the fluids, I muſt conclude, that the proximate cauſe of acute rheumatiſm, is commonly ly the ſame with that of other inflammations not depending upon a direct ſtimulus.

CCCCLVIII.

In the caſe of rheumatiſm, I ſuppoſe, that the moſt common remote cauſe of it, that is, cold applied, operates eſpecially on the veſſels of joints, from theſe being leſs covered by a cellular texture than thoſe of the intermediate parts of the limbs. I ſuppoſe further, that the application of cold produces a conſtriction of the extreme veſſels on the ſurface, and at the ſame time an increaſe of tone or phlogiſtic diatheſis in the courſe of them, from which ariſes an increaſed impetus of the blood, and, at the ſame time, a reſiſtance to the free paſſage of it, and conſequently inflammation and pain. Further, I ſuppoſe, that the reſiſtance formed excites the vis medicatrix to a further increaſe of the impetus of the blood; and, to ſupport this, a cold ſtage ariſes; a ſpaſm is formed, and a pyrexia and phlogiſtic diatheſis are produced in the whole ſyſtem.

CCCCLIX.

According to this explanation, the cauſe of acute rheumatiſm appears to be exactly analogous to that of the inflammations depending on an increaſed afflux of blood to a part while it is expoſed to the action of cold.

But there ſeems to be alſo, in the caſe of rheumatiſm, a peculiar affection of the fibres of the muſcles. Theſe fibres ſeem to be under ſome degree of rigidity, and therefore leſs eaſily admit of motion; and are pained upon the exertions of it.

It is alſo an affection of theſe fibres which gives an opportunity to the propagation of pains from one joint to another, along the courſe of the muſcles, and which pains are more ſeverely felt in the extremities of the muſcles terminating in the joints, becauſe, beyond theſe, the oſcillations are not propagated.

This affection of the muſcular fibres attending rheumatiſm, ſeems to explain why ſtrains and ſpaſms produce rheumatic affections; and, upon the whole, ſhows, that, with an inflammatory affection of the ſanguiferous ſyſtem, there is alſo in rheumatiſm a peculiar affection of the muſcular fibres, which has a conſiderable ſhare in producing the phenomena of the diſeaſe.

CCCCLX.

Having thus given my opinion of the proximate cauſe of rheumatiſm, I proceed to treat of the cure.

CCCCLXI.

Whatever difficulty may occur with reſpect to the explanation given (cccclviii. and cccclix.) this remains certain, that in acute rheumatiſm, at leaſt in all thoſe caſes which do not ariſe from direct ſtimuli, there is an inflammatory affection of the parts, and a phlogiſtic diatheſis in the whole ſyſtem; and upon theſe is founded the method of cure, which frequent experience has approved of.

CCCCLXII.

The cure therefore requires, in the firſt place, an antiphlogiſtic regimen, and particularly a total abſtinence from animal food, and from all fermented or ſpirituous liquors; ſubſtituting a vegetable or milk diet, and the plentiful uſe of bland diluent drinks.

CCCCLXIII.

Upon the ſame principle, (ccccl.) at leaſt with perhaps the ſame exception as above, blood-letting is the chief remedy of acute rheumatiſm. The blood ought to be drawn in large quantity; and the bleeding is to be repeated in proportion to the frequency, fulneſs, and hardneſs of the pulſe, and to the violence of the pain. For the moſt part, large and repeated bleedings, during the firſt days of the diſeaſe, ſeem to be ne-

neceſſary, and accordingly have been very much employed: but to this ſome bounds are to be ſet; for very profuſe bleedings occaſion a ſlow recovery, and, if not abſolutely effectual, are ready to produce a chronic rheumatiſm.

CCCCLXIV.

To avoid that debility of the ſyſtem, which general bleedings are ready to occaſion, the urgent ſymptom of pain may be often relieved by topical bleedings; and eſpecially when any ſwelling and redneſs have come upon a joint, the pain of it may be very certainly relieved by ſuch bleedings; but, as the continuance of the diſeaſe ſeems to depend more upon the phlogiſtic diatheſis of the whole ſyſtem, than upon the affection of particular parts, ſo topical bleedings will not always ſupply the place of the general bleedings propoſed above*.

CCCCLXV.

To take off the phlogiſtic diatheſis prevailing in this diſeaſe, purging may be uſeful, if procured by medicines which do not ſtimulate the whole ſyſtem, ſuch as neutral ſalts, and which have, in ſome meaſure, a refrigerant power. Purging, however, is not ſo powerful as bleeding, in removing phlogiſtic diatheſis; and, when the diſeaſe has become general and violent, frequent ſtools are inconvenient, and even hurtful, by the motion and pain which they occaſion.

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* Theſe topical bleedings, however, have, by repeated experience been found of eſſential advantage, eſpecially when the partial inflammation has been very violent. They are beſt performed by leeches, many of which ought to be applied all over the inflamed part. Cupping has been long the favourite practice of many phyſicians, but it generally irritates more than the leeches: yet in caſes that require immediate relief, it is preferable to them. The Glauber, or Epſom ſalts, are the moſt convenient purges in all caſes of acute rheumatiſm. Either of them may be given ſeparately, or joined with the infuſum ſennæ, as in the following formula:

℞. Infus. Sennæ ℥iii.
Sal. Glauber. ℥ſs.
Tinct. Jalap. ʒi.
Tinct. Aromat. ʒſs.
M. ſ. hauſt.

The more ſuddenly purges operate in acute rheumatiſms, the more efficacious are they generally found; and as large diluting warm thin liquors conſiderably accelerate the operation of all purges, ſuch practice is never to be neglected in theſe caſes. Cream of tartar whey, mixed with twice its quantity of warm water, is a very proper drink to aſſiſt the operation of purges.

CCCCLXVI.

In acute rheumatiſm, applications to the painful parts are of little ſervice. Fomentations, in the beginning of the diſeaſe, rather aggravate than relieve the pains. The rubefacients and camphire are more effectual in relieving the pains; but generally they only ſhift the pain from one part into another, and do little towards the cure of the general affection. Bliſtering, applied to the pained part, may alſo be very effectual in removing the pain from it; but will be of little uſe, except where the pains are much confined to one part.

CCCCLXVII.

The ſeveral remedies mentioned from ccccli, to cccclv. moderate the violence of the diſeaſe, and ſometimes remove it entirely; but they ſometimes fail in this, and leave the cure imperfect. The attempting a cure by large and repeated bleedings, is attended with many inconveniences, (ſee cxl.) and the moſt effectual and ſafe method of curing this diſeaſe, is, after ſome general bleedings for taking off, or at leaſt diminiſhing, the phlogiſtic diatheſis, to employ ſweating, conducted by the rules laid down clxviii, and clxix*.

CCCCLXVIII.

Opiates, except where they are directed to procure ſweat, always prove hurtful in every ſtage of this diſeaſe*.

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* Sweating is moſt effectual in this diſeaſe, when produced by Dover's powder. The doſe of it is 12 or 15 grains, repeated at intervals, of two or three hours, till a ſweat be produced. Diluent drinks are to be uſed with it; and it may be neceſſary to obſerve, that they ought to be ſuch as are bland, and by no means ſtimulating; viz. barley-water, lintſeed-tea, thin water-gruel, &c.

CCCCLXIX.

The peruvian bark has been ſuppoſed a remedy in ſome caſes of this diſeaſe; but we have ſeldom found it uſeful, and in ſome caſes hurtful. It appears to me to be fit in thoſe caſes only, in which the phlogiſtic diatheſis is already much abated, and where, at the ſame time, the exacerbations of the diſeaſe are manifeſtly periodical, with conſiderable remiſſions interpoſed†.

CCCCLXX.

Calomel, and ſome other preparations of mercury, have been recommended in the acute rheumatiſm; but I believe they are uſeful only in caſes of the chronic kind, or at leaſt in caſes approaching to the nature of theſe.

CCCCLXXI.

Having now treated fully of the cure of the acute rheumatiſm, I proceed to treat of the cure of the chronic, which is ſo frequently a ſequel of the former.

CCCCLXXII.

The phenomena of the purely chronic rheumatiſm, mentioned in ccccxxxix, and ccccxl. lead me to conclude, that its proximate cauſe is an atony, both of the blood-veſſels and of the muſcular fibres of the part affected; together with a degree of rigidity and contraction in the latter, ſuch as frequently attends them in a ſtate of atony.

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* Notwithſtanding this caution, many practitioners uſe opiates, eſpecially when joined with camphor, to procure ſweats in acute rheumatiſm. This compound never fails to increaſe the phlogiſtic diatheſis, and conſequently muſt be hurtful. In the chronic rheumatiſm, indeed, camphor and opium together form a valuable medicine. The doſe is the following bolus:

℞. Camphor. gr. vi.
Sp. Vini, gutt. x.
Opii gr. i.
Tart. Vitriol gr. xv.
Syr. q. ſ. M. f. bolus.

† Bark is always an ambiguous remedy in rheumatiſm, and on its firſt introduction into practice it was thought to occaſion or induce the diſeaſe. Wherever an inflammatory diatheſis prevails, the Peruvian bark is always an improper medicine, and it has been found by experience to be manifeſtly hurtful in the beginning, or inflammatory ſtate of the rheumatiſm.

CCCCLXXIII.

Upon this view of the proximate cauſe, the general indication of cure muſt be, to reſtore the activity and vigour of the vital principle in the part; and the remedies for this diſeaſe, which experience has approved of, are chiefly ſuch as are manifeſtly ſuited to the indication propoſed.

CCCCLXXIV.

Theſe remedies are either external or internal.

The external are, the ſupporting the heat of the part, by keeping it conſtantly covered with flannel; the increaſing the heat of the part by external heat, applied either in a dry or in a humid form; the diligent uſe of the fleſh-bruſh, or other means of friction; the application of electricity in ſparks or ſhocks; the application of cold* water by affuſion or immerſion; the application of eſſential oils of the moſt warm and penetrating kind; the application of ſalt brine; and, laſtly, the employment of exerciſe, either of the part itſelf ſo far as it can eaſily bear it, or of the whole body by riding or other mode of geſtation.

CCCCLXXV.

The internal remedies are, 1. Large doſes of eſſential oil drawn from reſinous ſubſtances, ſuch as turpentine†; 2. Subſtances containing ſuch oils, as guaiac*;

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* This, when compared with article 458 and others, ſeems to be a typographical error, and the author meant warm. Practice affords many inſtances of chronic rheumatiſm being occaſioned by cold bathing.

† Turpentine is an extremely heating oil, as indeed are all the eſſential oils; its uſe therefore requires the greateſt caution. The

ac*; 3. Volatile alkaline ſalts; 4. Theſe, or other medicines directed to procure ſweat, (clxix.) and, laſtly, Calomel†, or other preparation of mercury, in ſmall doſes, continued for ſome time.

CCCCLXXVI.

Theſe (cccclxiii, cccclxiv.) are the remedies ſucceſsfully employed in the purely chronic rheumatiſm; and there are ſtill others recommended, as bleeding, general and topical, burning, bliſtering, and iſſues: but theſe appear to me to be chiefly, perhaps only, uſeful when the diſeaſe ſtill partakes of the nature of acute rheumatiſm‡.

CHAP.

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doſe is from 8 to 15 drops on a piece of ſugar. Venice turpentine may be more conveniently given in the form of an emulſion, by diſſolving it in water by means of yolks of eggs. Two ſcruples of turpentine is the ordinary doſe; and when given in this liquid and diluted ſtate, is much preferable to the oil.

* The officinal preparations of guaiacum, are an extract of the wood, a ſolution of the gum in rectified ſpirit, another in volatile alkali, and an empyreumatical oil. The gum may be given in the quantity of 15 or 20 grains for a doſe, either in a bolus, or made into an emulſion with yolk of egg and an ounce or two of water: In larger quantities is is too purgative. The volatile elixir of the Edinburgh Pharmacopœia is an excellent form, as the volative ſpirit promotes the medicinal virtue of the guaiacum. The doſe of it is from a drachm to half an ounce, morning and evening, in any convenient vehicle; a tea-cupful of milk is the beſt, as it ſheaths in ſome meaſure the pungency of the medicine. Guaiacum is very conveniently joined with rubarb and magneſia, when we find that ſuch a doſe of it, as is neceſſary for procuring a ſufficient opening, would be too heating. A formula of this kind is deſcribed in the note on article 559.

† Calomel, perhaps, has only been ſerviceable in venereal caſes.

‡ The diet in the cure of chronic rheumatiſm ought to be generous and full. In many caſes, eſpecially among people in poor circumſtances, good living, with two or three glaſſes of ſherry in the day, has cured the diſeaſe without any medicines. One material circumſtance ought not to be omitted: viz. that the cure is much impeded by coſtiveneſs: if, therefore, the guaiacum does not procure two motions in the day, it will be neceſſary to give along with it ſome warm laxative. The tinctura ſacra is a proper medicine in theſe

CHAP. XIII.

OF THE TOOTHACH, OR ODONTAGIA.

CCCCLXXVII.

I HAVE formerly conſidered this diſeaſe as a ſpecies of Rheumatiſm to be treated upon the ſame principles as thoſe delivered in the preceding chapter; but now, from more attentive conſideration, I am led to conſider the toothach as a diſtinct diſeaſe. Whilſt the moſt of what has been delivered in the laſt chapter proceeds upon the ſuppoſition that the rheumatiſm depends upon a certain ſtate of the blood-veſſels and of the motion of the blood in them, without this being produced by the irritation of any acrid matter applied: I judge, that in the toothach, though there are often the ſame circumſtances in the ſtate of the blood-veſſels as in the caſes of rheumatiſm, theſe circumſtances in toothach always ariſe from the application of an acrid matter to the nerves of the teeth.

CCCCLVIII.

This diſeaſe is often no other than a pain felt in a particular tooth, without any inflammatory affection being at the ſame time communicated to the neighbouring parts. This, however, is rarely the caſe; and for the moſt part, together with the pain of the tooth, there is ſome degree of pain and of inflammatory affection communicated to the neighbouring parts, ſometimes to the whole of thoſe on the ſame ſide of the head with the affected tooth.

CCCCLXXIX.

This inflammatory affection ſeems to me to be always an affection of muſcles, and of the membranous

parts

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caſes: its doſe is from one to two ounces: As is alſo the elixir ſacrum of the Edinburgh College Pharmacopœia, its doſe may be from a drachm to half an ounce, as occaſion may require.

parts connected without any tendency to ſuppuration; and ſuch an affection, as is excited by cold in ſimilar parts elſewhere. It is from theſe circumſtances that I conclude the affection to be of the rheumatic kind.

CCCCLXXX.

It is poſſible that the muſcles and membranes of the jaw may be affected by the ſame cauſes which produce the rheumatiſm in other parts; and it is alſo poſſible, that a rheumatic diatheſis at firſt produced by irritation, may ſubſiſt in the muſcles and membranes of the jaw, ſo that the inflammatory affection may be renewed by certain cauſes without any new application of acrid matter: but I am perſuaded that either of theſe occurrences are very rare, and I have never been able to aſcertain any caſes of toothach to be of theſe kinds. I conſider it, therefore, as highly probable that this rheumatic affection of the jaws which we name toothach, is always dependent upon ſome immediate application of acrid matter to the nerves of the teeth.

CCCCLXXXI.

It is however to be obſerved, that this application of acrid matter does not always excite a pain in the tooth itſelf, or an inflammatory affection of the neighbouring parts; but that it very often operates by producing a diatheſis only; ſo that cold applied to the neighbouring parts does excite both a pain in the tooth, and an inflammatory affection of the neighbouring parts which did not appear before.

There ſeem to be alſo certain ſtates of the body, which operate upon the ſame diatheſis, ſo as to produce toothach. Such ſeems to be the caſe of pregnant women, who are more liable to toothach than other women. There are probably alſo ſome caſes of increaſed irritability which render perſons more ſubject to toothach. Thus women are more liable to the diſeaſe than men, and particularly women liable to hyſteric affections.

CCCCLXXXII.

The acrid matter producing this diſeaſe ſeems to be generated firſt in the hard ſubſtances of the teeth; and as it often appears firſt upon the external ſurface of theſe, it might be ſuſpected to ariſe from the application of external matters to the teeth: but as the production of this acrimony is often begun in the internal cavity of the teeth, where the operation of external matters cannot be ſuſpected, and as even when it begins upon the external parts of the teeth, the operation of the cauſe is at firſt in a ſmall portion of the teeth only, that it is difficult to ſuppoſe that any matter externally applied could act in ſuch a partial manner; ſo it is preſumed that the acrid matter occaſioning the toothach is produced by ſome vice originating in the ſubſtance of the tooth itſelf. When it begins upon the external ſurface, it is on the enamel; but upon the internal ſurface, it muſt be in the bony part. From what cauſes it ariſes in either of theſe ſubſtances, I do not at all know; but I ſuſpect that it often ariſes from ſome more general fault in the fluids of the body. The frequent uſe of mercury, eſpecially when thrown much upon the mouth, and the ſtate of the fluids in ſcurvy, ſeem both to give a diſpoſition to a caries in the teeth; and it is poſſible that ſome other acrimonious ſtates of the fluids may have the ſame effect.

CCCCLXXXIII.

A caries in ſome part of the teeth, whether ariſing upon their internal ſurface or upon their external, proceeding ſo far as to reach the nerves in the cavity of the teeth is pretty manifeſtly the cauſe of toothach, and of the firſt attacks of it: but when the cavity of the teeth has been opened, ſo that the external air or other matters can reach the cavity, theſe are often the exciting cauſes of toothach, and ſerve to prove in general, that acrid matters applied to the nerves occaſion the diſeaſe.

CCCCLXXXIV.

What is the nature of the matter produced in the caries of the teeth, I do not underſtand, nor have I found any proper corrector of it; but I preſume it to be of the putrid kind, as it often taints the breath with a fetid odour.

CCCCLXXXV.

In the cure of this diſeaſe, a long experience has ſhown, that the extraction of the carious tooth proves the moſt effectual, and very often the only effectual, remedy of the diſeaſe. But as in ſome caſes this extraction is not proper, and as in many caſes it is obſtinately avoided, other means of curing the diſeaſe, or at leaſt of relieving the pain, have been ſought for and much practiſed.

CCCCLXXXVI.

Among theſe remedies, thoſe are likely to be the moſt effectual which entirely deſtroy the affected nerve, or at leaſt ſo much of it as is expoſed to the action of the acrid matter in the tooth. When an opening is made into the cavity of the tooth, the nerve of it may be deſtroyed moſt certainly by the actual cautery; and may it alſo poſſibly be done by the application of potential cauſtics, either of the alkaline or acid kind.

CCCCLXXXVII.

When theſe remedies cannot be rendered effectual, relief may often be obtained by diminiſhing the ſenſibility of the nerve affected, by the application of opium, or of the more acrid aromatic oils*, and directly to the nerve in the tooth. It appears alſo, that the ſenſibility of the affected nerve may often be for ſome time diminiſhed by the external application of opium to the extremities of thoſe nerves in the ſkin, which are branches of the ſame fifth pair of nerves with thoſe of the teeth.

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* The Oleum Origani is the oil generally uſed for this purpoſe. Great care muſt be taken in uſing either theſe acrid eſſential oils, or the vitriolic or other mineral acids, that no part of them touch the gums.

CCCCLXXXVIII.

When the diſeaſe conſiſts entirely in a pain of the nerve of the tooth, without any conſiderable affection communicated to the neighbouring parts, the remedies already mentioned are thoſe eſpecially to be employed; but when the diſeaſe conſiſts very much in an inflammatory affection of the muſcles and membranes of the jaw, and when at the ſame time there is little or no acceſs for the abovementioned remedies to the affected nerve, other meaſures are to be employed for relieving the diſeaſe.

CCCCLXXXIX.

If the diſeaſe be attended with any general phlogiſtic diatheſis of the ſyſtem, or with any conſiderable degree of pyrexia, a general bleeding may be uſeful in relieving the diſeaſe; but theſe circumſtances occur very rarely, and the diſeaſe is for the moſt part a purely topical affection; in which, as I obſerved before, a general bleeding is of very little ſervice. As this diſeaſe, however, is a topical inflammation, it might be ſuppoſed that topical bleedings would be very uſeful, and ſometimes they are ſo; but it is ſeldom that their effects are either conſiderable or permanent. The reaſons of this I take to be that the diſeaſe does not conſiſt in an affection of the blood-veſſels alone, as in the ordinary caſes of rheumatiſm; but in a peculiar affection of the fibres both of the muſcles and of the veſſels of the part induced by irritation. The inefficacy of topical bleedings is with me a proof of the diſeaſe being of the latter kind.

CCCCXC.

The remedies therefore neceſſary to give relief in this diſeaſe, are thoſe which take off the ſpaſm of the veſſels, and eſpecially of the muſcles and membranes affected. Such as bliſtering, brought as near to the part affected as can be conveniently done[*]; and ſuch are alſo increaſed excretions excited in the neighbouring parts, as of the ſaliva and mucus of the mouth by the uſe of acrid maſticatories[§]. It is often ſufficient to excite a ſtrong ſenſation in the neighbouring parts; as by eau de luce, ſpirit of lavender, or hungary water ſnuffed up the noſtrils; or by the vitriolic æther properly applied to the cheek. It is upon the ſame footing that I ſuppoſe brandy or other ardent ſpirit held in the mouth is often of ſervice.

CCCCXCI.

There are caſes of toothach in which it does not appear that the diſeaſe ariſes from an acrid matter immediately applied to the nerve of a tooth; but from the external application of cold, or ſome other cauſes immediately applied to the muſcles and membranes of the jaw; and which therefore ſeem to require ſome remedies different from theſe abovementioned. But in ſuch caſes, it is to be ſuſpected, that the effects of cold or of other ſuch cauſes are owing to a diatheſis produced by an acrid matter applied to the nerve of a tooth, and continuing in ſome meaſure to act there; and we have accordingly often found, that the action of thoſe external cauſes were to be obviated only by the extraction of the tooth from which the diatheſis had ariſen.

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[*] Bliſters are applied moſt ſucceſsfully behind the ears, ſuch applications however, are always troubleſome; and their effects are often doubtful, other milder ſtimulants frequently anſwer all the intention of bliſters, and by many practitioners are thought to be equally efficacious. The applications generally uſed are camphorated ſpirit, or volatile alkali. This laſt, either alone, or mixed with an equal quantity of oil of almonds, rubbed on the jaw, the part being kept warm by a piece of flannel, has often been found extremely uſeful. Warmth, any how produced on the part, always gives relief; while, on the contrary, cold always exaſperates the ſymptoms: hence the propriety of covering the jaws with flannel, and avoiding a cold ſtream of air.

[§] Theſe are horſe-radiſh, ſcurvy-graſs, the greater celandine, with ſome others; but the radix pyrethri is the beſt. In ſome Pharmacopœia, but I do not recollect which, there is a formula, called Trochiſci Sialagogi, to the beſt of my remembrance, as follows:

℞. Pulv. Rad. Pyrethri, ʒi.
Gum. Maſtich. ʒſs.
Ol. Caryophyll. Aromat.
Ol. Marjoranæ ā ā ʒi.
Ceræ Alb. q. ſ. ut. f. Trochiſci.

One of theſe held in the mouth, or chewed, promotes a copious diſcharge of ſaliva, by warming and ſtimulating the ſalivary glands.

* * *

CHAP. XIV.

OF THE GOUT.

CCCCXCII.

THE Gout, not only as it occurs in different perſons, but even as it occurs in the ſame perſon at different times, is a diſeaſe of ſuch various appearance, that it is difficult to render the hiſtory of it complete and exact, or to give a character of it that will univerſally apply. However, I ſhall endeavour to deſcribe the diſeaſe as it moſt commonly appears, and to mark the varieties of it as well as I can. From ſuch a hiſtory I expect that a general character may be given; and ſuch I think is the following, as given in the laſt edition of our Noſology:

GEN. XXIII. PODAGRA.

Morbus hæreditarius, oriens ſine cauſa externa evidente, ſed præeunte plerumque ventriculi affectione inſolita; pyrexia; dolor ad articulum et plerumque pedis pollici, certe pedum et manuum juncturis, potiſſimum infeſtus; per intervalla revertens, et ſæpe cum ventriculi et internarum partium affectionibus alternans.

CCCCXCIII.

The Gout is generally a hereditary diſeaſe: but ſome perſons, without hereditary diſpoſition, ſeem to acquire it; and, in ſome a hereditary diſpoſition may be counteracted by various cauſes. Theſe circumſtances may ſeem to give exceptions to our general poſition; but the facts directly ſupporting it are very numerous.

CCCCXCIV.

This diſeaſe attacks eſpecially the male ſex: but it ſometimes, though more rarely, attacks alſo the female*. The females liable to it are thoſe of the more robuſt

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* Hippocrates ſays, that women ſeldom have the gout, and never before the diſappearance of the catemenia. In his time and country, perhaps, the ladies were more temperate than they were in other ages and in other places. We find the gout a familiar diſeaſe among the Roman ladies; which, Seneca, in his ninety-fifth epiſtle juſtly aſcribes to the luxurious living and debaucheries, in which they indulged without controul.

As the whole of that epiſtle is an excellent account of the direful effects of high living and debauchery, it may not be unacceptable to the young practitioner, who, perhaps, might otherwiſe be unacquainted with ſo juſt a deſcription of luxurious living, and its concomitant evils. Independent of its containing a minute relation of Roman cuſtoms, which makes it a valuable morſel for antiquaries, it may be read with peculiar advantage by the young phyſician.

As an apology for giving it in the original, I ſhall ſay of Seneca what an elegant Engliſh writer ſays of Cicero; that any tranſlation of his nervous language, is like the faint glimmerings of a taper compared with the blazing light of the meridian ſun.

Medicina quandam paucarum fuit ſcientia herbarum, quibus ſiſteretur ſanguis fluens, vulnera coierent paulatim. Deinde in hanc pervenit tam multiplicem varietatem. Nec mirum eſt: tunc illam minus negotii habuiſſe, firmis adhuc, ſolidiſque corporibus, et facilicibo, nec per artem voluptatemque corrupto. Qui poſtquam cœpit, non ad tolendum, ſed ad irritandam, famem quaeri, et inventæ ſunt multæ conditurae, quibus auviditas excitareter: quæ de-robuſt and full habits; and it very often happens to ſuch long before the menſtrual evacuation has ceaſed.

I

ſiderantibus alimenta erant, onera ſunt plenis. Inde pallor, et nervorum vino madentium tremor, et miſerabilior ex cruditatibus quam ex fame macies. Inde incerti labantium pedes, et ſemper qualis in ipſa ebrietate titubatio. Inde in totam cutem humor admiſſus, diſtentus venter, dum male aſſueſcit plus capere, quam poterat. Inde ſuffuſio luridæ bilis, et decolar vultus, tabeſque in ſe putreſcentium, et retorti digiti articulis obrigeſcentibus, nervorum ſine ſenſu jacentium, torpor aut palpitatio ſine intermiſſione vibrantium. Quid capitis vertigines dicam? Quid oculorum auriumque tormenta, et cerebri æſtuantis verminationes, et omni per quæ exoneramur internis ulceribus affecta? Innumerabilia præterea febrium genera, aliarum impetu ſubeuntium, aliarum tenui peſte repentium, aliarum cum horrore et multa membrorum quaſſatione venientium? Quid alios referum innumerabilos morbos, ſupplicia luxuriæ? Immunes erant ab iſtis malis qui nondum ſe deliciis ſolverant, qui ſibi imperabant, ſibi miniſtrabant. Corpora opera ac vero labore durabant, aut curſu defatigati, aut venatu, aut tellure verſata. Excipiebat illos cibus qui niſi eſurientibus placere non poterat. Itaque nihil opus erat tam magna medicorum ſupellectile, nec tot ferramentis atque pyxidibus. Simplex erat ex ſimplice cauſa valetudo. Multos morbox multa fercula fecerunt. Vide quantum rerum per unam gulam tranſiturarum permiſceat luxuria, terrarum mariſque vaſtatrix. Neceſſe eſt itaque inter ſe tam diverſa diſſideant, et hauſta mali digerantur, aliis olio nitentibus. Nec mirum, quod inconſtans variuſque ex diſcordi cibo morbus eſt, et illa ex contrariis naturæ partibus in eudem compulſa redundant. Inde tam nullo ægrotamus genere quam vivimus. Maximus ille medicorum, et hujus ſcientiæ conditor, feminis nec capillos dufluere dixit, nec pedes laborare. Atqui hæ jam et capillis deſtituuntur, et pedibus ægræ ſunt. Non mutata feminarum natura, ſed vita eſt. Nam cum virorum licentiam æquaverint, corporum quoqe virilium vitia æquaverunt, Non minus per vigilant, non minus potant, et oleo et mero viros provocant. Æque invitis ingeſta viſceribus per os reddunt, et vinum omne vomitu remetiuntur; æque nivem rodunt, ſolatium ſtomachi æſtuantis. Libidini vero nec maribus quidem cedunt, pati natæ Dii illas deæque male perdant: adeo perverſum commentæ genus impudicitiæ viros ineunt. Quid ergo mirandum eſt, maximum medicorum ac naturæ peritiſſimum, in mendacio prehendi, cum tot femina podagricæ calvaeque ſint. Beneficium ſexus ſui vitiis perdiderunt; et quia feminam exerunt, damnatæ ſunt morbis virilibus. Antiqui medici neſciebant dare cibum ſæpius, et vino fulciri venas cadentes; neſciebant ſaniem emittere, et diutinam ægrotationem balneo ſudoribuſque laxare; neſciebant cru-

I have found it occurring in ſeveral females, whoſe menſtrual evacuations were more abundant than uſual.

CCCCXCV.

This diſeaſe ſeldom attacks eunuchs, and when it does, they ſeem to be thoſe who happen to be of a robuſt habit, to lead an indolent life, and live very full.

CCCCXCVI.

The gout attacks eſpecially men of robuſt and large bodies, men of large heads, of full and corpulent habits, and men whoſe ſkin is covered with a thicker *rete mucoſum*, which gives a coarſer ſurface.

CCCCXCVII.

If, with the ancients, we might aſcertain, by certain terms, the temperaments of men, I would ſay, that the gout attacks eſpecially men of a *choleric-ſanguine*

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rum vinculo, brachiorumque, latentem vim, et in medio ſedentem, ad extrema revocare. Non erat neceſſe circumſpicere multa auxiliorum genera cum eſſent periculorum pauciſſima. Nunc autem quam longe proceſſerunt mala veletudinis? Has uſuras voluptatum pendimus, ultra modum faſque concupitarum. Innumerabiles eſſe morbos miraris? Coquos numera. Ceſſat omne ſtudium: et liberalia, profeſſi, ſine ulla frequentia, deſertis angulis præſident. In rhetorum ac philoſophorum ſcholis ſolitudo eſt. At quam celebres culinæ ſunt? Quanta nepotum focos juventus premit? Tranſeo puerorum infelicium greges; quos poſt tranſacta convivia aliæ cubiculi contumeliæ expectant. Tranſeo agmina exoletorum per nationes coloreſque deſcripta; et eadem omnibus levitas ſit, eadem primæ menſura languinis, eadem ſpecies capillorum, ne quis cui " rectior ſit " coma, criſpulis miſcatur. Tranſeo piſtorum turbam, tranſeo " miniſtratorum, per quos ſigno dato ad inferendam cœnam diſcurri- " tur. Dii boni quantum hominum unus venter exercet! Qiud tu " illos boletos, voluptarium venenum, nihil oculti operis judicas fa- " cere, etiamſi præſentanei non furant? Quid tu illam æſtivam ni- " vem non putas callum jecinoribus obducere? Quid illa oſtrea, in- " ertiſſimam carnem, cœno ſaginatam, nihil exiſtimas limoſæ gravi- " tatis inferre? Quid illud ſociorum garum, pretioſam pilcium ſa- " niem, non credis urere ſalſa tabe præcordia? Quid illa purulenta, " et quæ tantum non ab ipſo viſceribus extingui? Quam fœdi atque " peſtilentes ructus ſunt, quantum faſtidium ſui, exhalantibus cra- " pulam veterem?"

temperament, and that it very ſeldom attacks the purely ſanguine or melancholic. It is, however, very difficult to treat this matter with due preciſion.

CCCCXCVIII

The gout ſeldom attacks perſons employed in conſtant bodily labour, or perſons who live much upon vegetable aliment. It is alſo ſaid to be leſs frequent among thoſe people who make no uſe of wine or other fermented liquors.

CCCCXCIX.

The gout does not commonly attack men, till after the age of five and thirty; and generally not till a ſtill later period. There are indeed inſtances of the gout occurring more early; but theſe are few in compariſon of the numbers which agree with what we have given as the general rule. When the diſeaſe does appear early in life, it ſeems to be in thoſe in whom the hereditary diſpoſition is very ſtrong, and to whom the remote cauſes to be hereafter mentioned have been applied in a conſiderable degree.

D.

As the gout is a hereditary diſeaſe, and affects eſpecially men of a particular habit, its remote cauſes may be conſidered as prediſponent and occaſional.

DI.

The prediſponent cauſe, ſo far as expreſſed by external appearances or by the general temperament, we have already marked; and phyſicians have been very confident in aſſigning the occaſional cauſes: but, in a diſeaſe depending ſo much upon a prediſpoſition, the aſſigning occaſional cauſes muſt be uncertain; as in the prediſpoſed, the occaſional cauſes may not always appear, and in perſons not prediſpoſed, they may appear without effect. This uncertainty muſt particularly affect the caſe of the gout; but I ſhall offer what appears to me moſt probable on the ſubject.

DII.

The occaſional cauſes of the gout ſeem to be of two kinds. Firſt, thoſe which induce a plethoric ſtate of the body. Secondly, thoſe which, in plethoric habits, induce a ſtate of debility.

DIII.

Of the firſt kind are a ſedentary indolent manner of life, a full diet of animal food, and the large uſe of wine or of other fermented liquors. Theſe circumſtances commonly precede the diſeaſe; and if there ſhould be any doubt of their power of producing it, the fact, however, will be rendered ſufficiently probable by what has been obſerved in ccccxcviii.

DIV.

Of the ſecond kind of occaſional cauſes which induce debility are, exceſs in venery*; intemperance in the uſe of intoxicating liquors §; indigeſtion, produced either by the quantity or quality of aliments †; much application to ſtudy or buſineſs‡; night-watching ‖;

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[*] Why exceſs of venery ſhould be cauſe of gout, has much engaged the attention of medical writers, and various reaſons have been given why it ſhould produce ſuch an effect. There is not the leaſt doubt of the fact, though ſome authors have ventured to deny it, and have excluded the exceſs of venery from being a cauſe of gout. It produces gout not primarily, but ſecondarily, if I may be allowed the expreſſion, by inducing a general ſtate of debility, and by weakening the power of digeſtion, both of which circumſtances are cauſes of the gout.

[§] By intemperate drinking the action of the ſtomach and bowels becomes extremely feeble and languid, if it be not wholly deſtroyed; hence continual indigeſtions, to which the origin of the gout is attributed.

[†] Both the quantity and the quality of the aliments may produce indigeſtion; and hence the indulging in too great a quantity of aliment, as well as in that which is of an indigeſtible nature, are ſecondary cauſes of the gout: viz. cauſes which induce a ſtate of debility.

[‡] Much application to ſtudy may doubtleſs induce indigeſtion, and thus increaſe the general ſtate of delibity: it is not, however, by intenſe, or deep thinking merely, that men grow pale amid their books, but by the ſedentary life which men generally lead, and the

ing ‖; exceſſive evacuations ¶; the ceaſing of uſual labour *; the ſudden change from a very full to a very ſpare diet §; the large uſe of acids and aceſcents †; and, laſtly, cold ‡ applied to the lower extremities.

DV.

The firſt (DIII.) ſeem to act by increaſing the prediſpoſition. The laſt (DIV.) are commonly the exciting cauſes, both of the firſt attacks, and of the repetitions of the diſeaſe.

DVI.

It is an inflammatory affection of ſome of the joints, which eſpecially conſtitutes what we call a paroxyſm of the gout. This ſometimes comes on ſuddenly without any warning, but is is generally preceded by ſeveral ſymptoms; ſuch as the ceaſing of a ſweating which the feet had been commonly affected with before; an unuſual coldneſs of the feet and legs; a frequent numbneſs, alternating with a ſenſe of prickling along the whole of the lower extremities; frequent cramps of the muſcles of the legs; and an unuſual turgeſcence of the veins.

DVII.

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untimely lucubrations in which they inconſiderately indulge. Much application to buſineſs can only be an occaſional cauſe of the gout, when the buſineſs requires a ſedentary and inactive life; but as moſt buſineſs requires activity, attention to buſineſs is ſeldom the cauſe of gout.

‖ The want of ſleep is always a cauſe of indigeſtion, and increaſes debility more perhaps, when carried to exceſs, than any other of the circumſtances mentioned by the author.

¶ That large evacuations induce debility is ſufficiently evident.

* Nothing more effectually promotes digeſtion than proper exerciſe; the leaving off accuſtomed labour muſt therefore neceſſarily induce indigeſtion and conſequent debility.

§ Why this induces debility is evident. See note on article 549.

† That acids, by impairing the digeſtive powers of the ſtomach, may produce debility, is what every practitioner allows.

‡ How cold thus applied, can produce a ſtate of debility, is not very evident. It is, however, one of the occaſional cauſes of gout, as experience ſufficiently teſtifies.

DVII.

While theſe ſymptoms take place in the lower extremities, the whole body is affected with ſome degree of torpor and languor, and the functions of the ſtomach in particular are more or leſs diſturbed. The appetite is diminiſhed, and flatulency, or other ſymptoms of indigeſtion, are felt. Theſe ſymptoms, and thoſe of DVI. take place for ſeveral days, ſometimes for a week or two, before a paroxyſm comes on: but commonly, upon the day immediately preceding it, the appetite becomes greater than uſual.

DVIII.

The circumſtances of paroxyſms are the following. They come on moſt commonly in the ſpring, and ſooner or later according as the vernal heat ſucceeds ſooner or later to the winter's cold; and perhaps ſooner or later alſo according as the body may happen to be more or leſs expoſed to viciſſitudes of heat and cold.

DIX.

The attacks are ſometimes felt firſt in the evening, but more commonly about two or three o'clock of the morning. The paroxyſm begins with a pain affecting one foot, moſt commonly in the ball or firſt joint of the great toe, but ſometimes in other parts of the foot. With the coming on of this pain, there is commonly more or leſs of cold ſhivering, which, as the pain increaſes, gradually ceaſes, and is ſucceeded by a hot ſtage of pyrexia, which continues for the ſame time with the pain itſelf. From the firſt attack, the pain becomes by degrees more violent, and continues in this ſtate with great reſtleſſneſs of the whole body, till next midnight, after which it gradually remits; and, after it has continued for twenty-four hours from the firſt attack, it commonly ceaſes very entirely, and with the coming on of a gentle ſweat, allows the patient to fall aſleep. The patient, upon coming out of this ſleep in the morning, finds the pained part affected with ſome redneſs and ſwelling, which, after having continued for ſome days, gradually abate.

DX.

When a paroxyſm has thus come on, although the violent pain after twenty-four hours be conſiderably abated, the patient is not entirely relieved from it. For ſome days he has every evening a return of more conſiderable pain and pyrexia, and which continue with more or leſs violence till morning. After continuing in this manner for ſeveral days, the diſeaſe ſometimes goes entirely off, not to return till after a long interval.

DXI.

When the diſeaſe, after having thus remained for ſome time in a joint; ceaſes very entirely, it generally leaves the perſon in very perfect health, enjoying greater eaſe and alacrity in the functions of both body and mind, than he had for a long time before experienced.

DXII.

At the beginning of the diſeaſe, the returns of it are ſometimes only once in three or four years: but, after ſome time, the intervals become ſhorter, and the attacks become annual; afterwards they come twice each year, and at length recur ſeveral times during the whole courſe of autumn, winter, and ſpring; and as it happens that, when the fits are frequent, the paroxyſms become alſo longer, ſo, in the advanced ſtate of the diſeaſe, the patient is hardly ever tolerably free from it, except perhaps for two or three months in ſummer.

DXIII.

The progreſs of the diſeaſe is alſo marked by the parts which it affects. At firſt, it commonly affects one foot only; afterwards every paroxyſm affects both feet, the one after the other; and, as the diſeaſe continues to recur, it not only affects both feet at once, but after having ceaſed in the foot which was ſecondly attacked, returns again into the foot firſt affected, and perhaps a ſecond time alſo into the other. Its changes of place are not only from one foot to the other, but alſo from the feet into other joints, eſpecially thoſe of the upper and lower extremities; ſo that there is hardly a joint of the body that is not, on one occaſion or other, affected. It ſometimes affects two different joints at the ſame time; but more commonly it is ſevere in a ſingle joint only, and paſſes ſucceſſively from one joint to another; ſo that the patient's affliction is often protracted for a long time.

DXIV.

When the diſeaſe has often returned, and the paroxyſms have become very frequent, the pains are commonly leſs violent than they were at firſt; but the patient is more affected with ſickneſs, and the other ſymptoms of the atonic gout, which ſhall be hereafter mentioned.

DXV.

After the firſt paroxyſms of the diſeaſe, the joints which have been affected are entirely reſtored to their former ſuppleneſs and ſtrength: but after the diſeaſe has recurred very often, the joints affected do neither ſo ſuddenly nor ſo entirely recover their former ſtate, but continue weak and ſtiff; and theſe effects at length proceed to ſuch a degree, that the joints loſe their motion altogether.

DXVI.

In many perſons, but not in all, after the diſeaſe has frequently recurred, concretions of a chalky nature are formed upon the outſide of the joints, and for the moſt part immediately under the ſkin. The matter ſeems to be depoſited at firſt in a fluid form, but afterwards becomes dry and firm. In their dry ſtate, theſe concretions are a friable earthy ſubſtance, very entirely ſoluble in acids. After they have been formed, they contribute, with other circumſtances, to deſtroy the motion of the joint.

DXVII.

In moſt perſons who have laboured under the gout for many years a nephritic affection comes on, and diſcovers itſelf by all the ſymptoms which uſually attend calculous concretions in the kidneys, and which we ſhall have occaſion to deſcribe in another place. All that is neceſſary to be obſerved here is, that the nephritic affection alternates with paroxyſms of the gout, and that the two affections, the nephritic and the gouty, are hardly ever preſent at the ſame time. This alſo may be obſerved, that children of gouty or nephritic parents, commonly inherit one or other of theſe diſeaſes; but whichever may have been the principal diſeaſe of the parent, ſome of the children have the one, and ſome the other. In ſome of them, the nephritic affection occurs alone, without any gout ſupervening; and this happens to be frequently the caſe of the female offspring of gouty parents.

DXVIII.

In the whole of the hiſtory already given I have deſcribed the moſt common form of the diſeaſe; and which therefore, however diverſified in the manner I have ſaid, may be ſtill called the regular ſtate of the gout. Upon occaſion, however, the diſeaſe aſſumes different appearances*; but, as I ſuppoſe the diſeaſe to depend always upon a certain diatheſis or diſpoſition of the ſyſtem; ſo every appearance which we can perceive to depend upon that ſame diſpoſition, I ſhall conſider as a ſymptom and caſe of the gout.

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* Theſe different appearances which the gout aſſumes, are extremely unlike the regular gout above deſcribed; the young practitioner ought therefore to pay peculiar attention to them, that when he obſerves them in patients, he may not think them ſymptoms of other diſeaſes, or even miſtake them for primary diſeaſes. Errors of this kind are frequently committed by ignorant practitioners, to their own diſcredit and the danger of their patient's life.

The principal circumſtance in what we term the *Regular gout*, is the inflammatory affection of the joints; and, whatever ſymptoms we can perceive to be connected with, or to depend upon, the diſpoſition which produces that inflammatory affection, but without its taking place, or being preſent at the ſame time, we name the *Irregular Gout.*

DXIX.

Of ſuch irregular gout there are three different ſtates, which I name the *atonic*, the *retrocedent*, and the *miſplaced* gout.

DXX.

The atonic ſtate is when the gouty diatheſis prevails in the ſyſtem, but, from certain cauſes, does not produce the inflammatory affection of the joints. In this caſe, the morbid ſymptoms which appear are chiefly affections of the ſtomach; ſuch as loſs of appetite, indigeſtion, and its various circumſtances of ſickneſs, nauſea, vomiting, flatulency, acrid eructations, and pains in the region of the ſtomach. Theſe ſymptoms are frequently accompanied with pains and cramps in ſeveral parts of the trunk, and the upper extremities of the body, which are relieved by the diſcharge of wind from the ſtomach. Together with theſe affections of the ſtomach, there commonly occurs a coſtiveneſs; but ſometimes a looſeneſs with cholic pains. Theſe affections of the alimentary canal [illegible] attended with all the ſymptoms of hypochondriaſis; as dejection of mind, a conſtant and anxious attention to the ſlighteſt feelings, an imaginary aggravation of theſe, and an apprehenſion of danger from them.

In the ſame atonic gout, the viſcera of the thorax alſo are ſometimes affected, and palpitations, faintings, and aſthma, occur.

In the head alſo occur, headachs, giddineſs, apoplectic and paralytic affections.

DXXI.

When the ſeveral ſymptoms now mentioned occur in habits having the marks of a gouty diſpoſition, this may be ſuſpected to have laid the foundations of them; and eſpecially when either, in ſuch habits, a manifeſt tendency to the inflammatory affection has formerly appeared; or when the ſymptoms mentioned are intermixed with, and are not relieved by, ſome degree of the inflammatory gout. In ſuch caſes there can be no doubt of conſidering the whole as a ſtate of the gout.

DXXII.

Another ſtate of the diſeaſe I name the *retrocedent* gout. This occurs when an inflammatory ſtate of the joints has, in the uſual manner, come on, but which, without ariſing to the ordinary degree of pain and inflammation, or, at leaſt, without theſe continuing for the uſual time, and receding gradually in the uſual manner, they ſuddenly and entirely ceaſe, while ſome internal part becomes affected. The internal part moſt commonly affected is the ſtomach, which is then affected with anxiety, ſickneſs, vomiting, or violent pain; but ſometimes the internal part is the heart, which gives occaſion to a ſyncope; ſometimes it is the lungs which are affected with aſthma; and ſometimes it is the head, giving occaſion to apoplexy or palſy. In all theſe caſes, there can be no doubt of the ſymptoms being all a part of the ſame diſeaſe, however different the affection may ſeem to be in the parts which it attacks.

DXXIII.

The third ſtate of irregular gout, which we name the *miſplaced*, is when the gouty diatheſis, inſtead of producing the inflammatory affection of the joints, produces an inflammatory affection of ſome internal part, and which appears from the ſame ſymptoms that attend the inflammation of thoſe parts ariſing from other cauſes.

Whether the gouty diatheſis does ever produce ſuch inflammation of the internal parts, without having firſt produced it in the joints, or if the inflammation of the internal part be always a tranſlation from the joints previouſly affected, I dare not determine; but, even ſuppoſing the latter to be always the caſe, I think the difference of the affection of the internal part muſt ſtill diſtinguiſh the miſplaced from what I have named the Retrocedent Gout.

DXXIV.

What internal parts may be affected by the miſplaced gout I cannot preciſely ſay, becauſe I have never met with any caſes of the miſplaced gout in my practice; and I find no caſes of it diſtinctly marked by practical writers, except that of a pneumonic inflammation.

DXXV.

There are two caſes of a tranſlated gout; the one of which is an affection of the neck of the bladder, producing pain, ſtrangury, and a catarrhus veſicæ: The other is an affection of the rectum, ſometimes by pain alone in that part, and ſometimes by hæmorrhoidal ſwellings there. In gouty perſons, I have known ſuch affections alternate with inflammatory affections of the joints: But whether to refer thoſe affections to the retrocedent, or to the miſplaced gout, I will not preſume to determine.

DXXVI.

From the hiſtory which I have now delivered of the gout, I think it may be diſcerned under all its various appearances. It is, however, commonly ſuppoſed, that there are caſes in which it may be difficult to diſtinguiſh gout from rheumatiſm, and it is poſſible there may be ſuch caſes: but, for the moſt part, the two diſeaſes may be diſtinguiſhed with great certainty by obſerving the prediſpoſition, the antecedents, the parts affected, the recurrences of the diſeaſe, and its connection with the other parts of the ſyſtem; which circumſtances, for the moſt part, appear very differently in the two diſeaſes.

DXXVII.

With reſpect to the gout, our next buſineſs is to inveſtigate its proximate cauſe; which muſt be a difficult taſk, and I attempt it with ſome diffidence.

DXXVIII.

Upon this ſubject, the opinion which has generally prevailed is, that the gout depends upon a certain morbific matter, always preſent in the body; and that this matter, by certain cauſes, thrown upon the joints or other parts, produces the ſeveral phenomena of the diſeaſe.

DXXIX.

This doctrine, however ancient and general, appears to me very doubtful; for,

Firſt, there is no direct evidence of any morbific matter being preſent in perſons diſpoſed to the gout. There are no experiments or obſervations which ſhow that the blood, or other humours of gouty perſons, are in any reſpect different from thoſe of other perſons. Previous to attacks of the gout, there appear no marks of any morbid ſtate of the fluids; for the diſeaſe generally attacks thoſe perſons who have enjoyed the moſt perfect health, and appear to be in that ſtate when the diſeaſe comes on. At a certain period of the diſeaſe, a peculiar matter indeed appears in gouty perſons, (DXVI.) but this, which does not appear in every inſtance, and which appears only after the diſeaſe has ſubſiſted for a long time, ſeems manifeſtly to be the effect, not the cauſe of the diſeaſe. Further, though there be certain acrids which, taken into the body, ſeem to excite the gout (DIV.) it is probable that theſe acrids operate otherwiſe in exciting the diſeaſe, than by affording the material cauſe of it. In general, therefore, there is no proof of any morbific matter being the cauſe of the gout.

Secondly, The ſuppoſitions concerning the particular nature of the matter producing the gout, have been ſo various and contradictory to each other, as to allow us to conclude, that there is truly no proof of the exiſtence of any of them. With reſpect to many of theſe ſuppoſitions, they are ſo inconſiſtent with chemical philoſophy, and with the laws of the animal œconomy, that they muſt be entirely rejected.

Thirdly, The ſuppoſition of a morbific matter being the cauſe of the gout, is not conſiſtent with the phenomena of the diſeaſe, particularly with its frequent and ſudden tranſlations from one part to another.

Fourthly, The ſuppoſition is further rendered improbable by this, that, if a morbific matter did exiſt, its operation ſhould be ſimilar in the ſeveral parts which it attacks; whereas in ſeems to be very different, being ſtimulant and exciting inflammations in the joints, but ſedative and deſtroying the tone in the ſtomach: Which, upon the ſuppoſition of particular matter acting in both caſes, is not to be explained by any difference in the part affected.

Fifthly, Some facts alleged in proof of a morbific matter, are not ſufficiently confirmed, ſuch as thoſe which would prove the diſeaſe to be contagious. There is, however, no proper evidence of this, the facts given being not only few, but exceptionable; and the negative obſervations are innumerable.

Sixthly, Some arguments brought in favour of a morbific matter, are founded upon a miſtaken explanation. The diſeaſe has been ſuppoſed to depend upon a morbific matter, becauſe it is hereditary. But the inference is not juſt: for moſt hereditary diſeaſes do not depend upon any morbific matter, but upon a particular conformation of the ſtructure of the body, tranſmitted from the parent to the offspring; and this laſt appears to be particularly the caſe in the gout. It may be alſo obſerved, that hereditary diſeaſes, depending upon a morbific matter, always appear much more early in life than the gout commonly does.

Seventhly, The ſuppoſition of a morbific matter being the cauſe of the gout, has been hitherto uſeleſs, as it has not ſuggeſted any ſucceſsful method of cure. Particular ſuppoſitions have often corrupted the practice, and have frequently led from thoſe views which might be uſeful, and from that practice which experience had approved. Further, though the ſuppoſition of a morbific matter has been generally received, it has been as generally neglected in practice. When the gout has affected the ſtomach, nobody thinks of correcting the matter ſuppoſed to be preſent there, but merely of reſtoring the tone of the moving fibres.

Eighthly, The ſuppoſition of a morbific matter is quite ſuperfluous: for it explains nothing, without ſuppoſing that matter to produce a change in the ſtate of the moving powers; and a change in the ſtate of the moving powers, produced by other cauſes, explains every circumſtance, without the ſuppoſition of a morbific matter; and, to this purpoſe, it may be obſerved, that many of the cauſes (DIV.) exciting the gout, do not operate upon the ſtate of the fluids, but directly and ſolely upon that of the moving powers.

Laſtly, The ſuppoſition of a morbific matter is alſo ſuperfluous; becauſe, without any ſuch ſuppoſition, I think the diſeaſe can be explained in a manner more conſiſtent with its phenomena, with the laws of the animal œconomy, and with the method of cure which experience has approved.

I now proceed to give this explanation; but, before entering upon it, I muſt premiſe ſome general obſervations.

DXXX.

The firſt obſervation is, that the gout is a diſeaſe of the whole ſyſtem, or depends upon a certain general conformation and ſtate of the body; which manifeſtly appears from the facts mentioned from CCCCXCIV, to CCCCXCVII. But the general ſtate of the ſyſtem depends chiefly upon the ſtate of its primary moving powers; and therefore the gout may be ſuppoſed to be chiefly an affection of theſe.

DXXXI.

My ſecond obſervation is, that the gout is manifeſtly an affection of the nervous ſyſtem*; in which the primary moving powers of the whole ſyſtem are lodged. The occaſional or exciting cauſes (DIV.) are almoſt all ſuch as act directly upon the nerves and nervous ſyſtem; and the greater part of the ſymptoms of the atonic or retrocedent gout are manifeſtly affections of the ſame ſyſtem. (DXX, and DXXII.) This leads us to ſeek for an explanation of the whole of the diſeaſe in the laws of the nervous ſyſtem, and particularly the changes which may happen in the balance of its ſeveral parts.

DXXXII.

My third obſervation is, that the ſtomach, which has ſo univerſal a conſent with the reſt of the ſyſtem, is the internal part that is the moſt frequently, and often very conſiderably, affected by the gout. The paroxyſms of the diſeaſe are commonly preceded by an affection of the ſtomach; (DVII.) many of the exciting cauſes (DIV.) act firſt upon the ſtomach; and the ſymptoms of the atonic and retrocedent gout (DXX, DXXII.) are moſt commonly and chiefly affections of the ſame organ. This obſervation leads us to remark, that there is a balance ſubſiſting between the ſtate of the internal and that of the external parts; and, in particular, that the ſtate of the ſtomach is connected with that of the external parts, (XLIV.) ſo that the ſtate of tone in the one may be communicated to the other.

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* Boerhaave after deſcribing the diſeaſe, ſays, Aphoriſm, 1262. "From all which it appears that the proximate cauſe of the gout is "a vitiated ſtate of the moſt minute, and conſequently nervous veſ-"ſels of the body; and alſo of that fluid which flows through the "nerves."

DXXXIII.

Theſe obſervations being premiſed, I ſhall now offer the following pathology of the gout.

In ſome perſons there is a certain vigorous and plethoric ſtate of the ſyſtem (CCCCXCVI.) which, at a certain period of life, is liable to a loſs of tone in the extremities. (CCCCXCIX, DVI.) This is in ſome meaſure communicated to the whole ſyſtem, but appears more eſpecially in the functions of the ſtomach. (DVII.) When this loſs of tone occurs while the energy of the brain ſtill retains its vigour, the vis medicatrix naturæ is excited to reſtore the tone of the parts; and accompliſhes it by exciting an inflammatory affection in ſome part of the extremities. When this has ſubſiſted for ſome days, the tone of the extremities, and of the whole ſyſtem, are reſtored, and the patient returns to his ordinary ſtate of health. (DXI.)

DXXXIV.

This is the courſe of things, in the ordinary form of the diſeaſe, which we name the *regular gout;* but there are circumſtances of the body, in which this courſe is interrupted or varied. Thus when the atony (DVI, DVII.) has taken place, if the re-action (DIX.) do not ſucceed, the atony continues in the ſtomach, or perhaps in other internal parts, and produces that ſtate which we have, for reaſons now obvious, named the *atonic gout.*

DXXXV.

A ſecond caſe of variation in the courſe of the gout is, when, to the atony, the re-action and inflammation have to a certain degree ſucceeded, but, from cauſes either internal or external, the tone of the extremities,

tremities, and perhaps of the whole ſyſtem, is weakened; ſo that the inflammatory ſtate, before it had either proceeded to the degree, or continued for the time, requiſite for reſtoring the tone of the ſyſtem, ſuddenly and entirely ceaſes. Hence the ſtomach, and other internal parts, relapſe into the ſtate of atony; and perhaps have this increaſed by the atony communicated from the extremities: All which appears in what we have termed the *retrocedent* gout.

DXXXVI.

A third caſe of variation from the ordinary courſe of the gout, is, when, to the atony uſually preceding, an inflammatory re-action fully ſucceeds; but has its uſual determination to the joints by ſome circumſtances prevented; and is therefore directed to an internal part, where it produces an inflammatory affection, and that ſtate of things which we have named the *miſplaced gout*.

DXXXVII.

We have thus offered an explanation of the circumſtances of the ſyſtem in the ſeveral ſtates of the gout; and this explanation we ſuppoſe to be conſiſtent with the phenomena of the diſeaſe, and with the laws of the animal œconomy. There are indeed, with reſpect to the theory of the diſeaſe, ſeveral queſtions which might be put; to which we have not given any anſwer. But, though perhaps we could give an anſwer to many of theſe queſtions, it does not here appear neceſſary; as at preſent we intend only to eſtabliſh ſuch general facts with regard to this diſeaſe, as may lay a foundation for the cure of it, ſo far as experience has enabled us to proſecute it. Proceeding, therefore, upon the ſeveral parts of the pathology given, as ſo many matters of fact, I ſhall now conſider what may be attempted towards the cure of the diſeaſe.

DXXXVIII.

In entering upon this, I muſt obſerve, in the firſt place, that a cure has been commonly thought impoſſible; and we acknowledge it to be very probable, that the gout, as a diſeaſe of the whole habit, and very often depending upon original conformation, cannot be cured by medicines, the effects of which are always very tranſitory, and ſeldom extend to the producing any conſiderable change of the whole habit.

DXXXIX.

It would perhaps have been happy for gouty perſons, if this opinion had been implicitly received by them; as it would have prevented their having been ſo often the dupes of ſelf-intereſted pretenders, who have either amuſed them with inert medicines, or have raſhly employed thoſe of the moſt pernicious tendency. I am much diſpoſed to believe the impoſſibility of a cure of the gout by medicines; and more certainly ſtill incline to think, that whatever may be the poſſible power of medicines, yet no medicine for curing the gout has hitherto been found. Although almoſt every age has preſented a new remedy, yet all hitherto offered have very ſoon been either neglected as uſeleſs, or condemned as pernicious.

DXL.

Though unwilling to admit the power of medicines, yet I contend, that a great deal can be done towards the cure of the gout by a regimen: And from what has been obſerved (ccccxcviii.) I am firmly perſuaded, that any man who, early in life, will enter upon the conſtant practice of bodily labour, and of abſtinence from animal food, will be preſerved entirely from the diſeaſe.

Whether there be any other means of radically curing the gout, I am not ready to determine. There are hiſtories of caſes of the gout, in which it is ſaid, that by great emotions of mind, by wounds, and by other accidents, the ſymptoms have been ſuddenly relieved, and never again returned; but how far theſe accidental cures might be imitated by art, or would ſucceed in other caſes, is at leaſt extremely uncertain.

DXLI.

The practices proper and neceſſary in the treatment of the gout, are to be conſidered under two heads: *firſt*, As they are to be employed in the intervals of paroxyſms; or *ſecondly*, As during the time of theſe.

DXLII.

In the intervals of paroxyſms, the indications are, to prevent the return of paroxyſms, or at leaſt to render them leſs frequent, and more moderate. During the time of paroxyſms, the indications are, to moderate the violence, and ſhorten the duration of them as much as can be done with ſafety.

DXLIII.

It has been already obſerved, that the gout may be entirely prevented by conſtant bodily exerciſe, and by a low diet; and I am of opinion, that this prevention may take place even in perſons who have a hereditary diſpoſition to the diſeaſe. I muſt add here, that, even when the diſpoſition has diſcovered itſelf by ſeveral paroxyſms of inflammatory gout, I am perſuaded that labour and abſtinence will abſolutely prevent any returns of it during the reſt of life *. Theſe, therefore, are the means of anſwering the firſt indication to be purſued in the intervals of paroxyſms; and I muſt here offer ſome remarks upon the proper uſe of theſe remedies.

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* Several caſes are to met with in practical authors, which confirm this obſervation. Van Swieten relates the caſe of a prieſt, who enjoyed a rich living, and had long been an old and conſtant ſufferer in the gout; but happening at laſt to be taken by the pirates of Barbary, was detained there in a ſtate of ſlavery for the ſpace of two years, and kept conſtantly at work in the galleys, with only a very ſpare diet. The regimen he there underwent had this good effect, that after he was ranſomed from his captivity, having loſt his troubleſome and monſtrous fatneſs, he never once had a fit of the gout, though he lived ſeveral years after the event happened.

DXLIV.

Exerciſe in perſons diſpoſed to the gout, is directed to two purpoſes: One of theſe is the ſtrengthening of the tone of the extreme veſſels; and the other, the guarding againſt a plethoric ſtate. For the former, if exerciſe be employed early in life, and before intemperance has weakened the body, a very moderate degree of it will anſwer the purpoſe; and for the latter, if abſtinence be at the ſame time obſerved, little exerciſe will be neceſſary.

DXLV.

With reſpect to exerciſe, this in general is to be obſerved, that it ſhould never be violent; for, if violent, it cannot be long continued, and muſt always endanger the bringing on an atony in proportion to the violence of the preceding exerciſe.

DXLVI.

It is alſo to be obſerved, that the exerciſe of geſtation, though conſiderable and conſtant, if it be entirely without bodily exerciſe, will not anſwer the purpoſe in preventing the gout. For this end, therefore, the exerciſe muſt be in ſome meaſure that of the body; and muſt be moderate, but at the ſame time conſtant and continued through life.

DXLVII.

In every caſe and circumſtance of the gout in which the patient retains the uſe of his limbs, bodily exerciſe, in the intervals of paroxyſms, will always be uſeful; and in the beginning of the diſeaſe, when the diſpoſition to it is not yet ſtrong, exerciſe may prevent a paroxyſm which otherwiſe might have come on. In more advanced ſtates of the diſeaſe, however, when there is ſome diſpoſition to a paroxyſm, much walking will bring it on; either as it weakens the tone of the lower extremities, or as it excites an inflammatory diſpoſition in them; and it is probable, that in the ſame manner ſtrains or contuſions often bring on a paroxyſm of the gout.

DXLVIII.

Abſtinence, the other part of our regimen (DXL.) for preventing the gout, is of more difficult application. If an abſtinence from animal food be entered upon early in life, while the vigour of the ſyſtem is yet entire, we have no doubt of its being both ſafe and effectual; but, if the motive for this diet ſhall not have occurred till the conſtitution ſhall have been broken by intemperance, or by the decline of life, a low diet may then endanger the bringing on an atonic ſtate.

DXLIX.

Further, if a low diet be entered upon only in the decline of life, and be at the ſame time a very great change in the former manner of living, the withdrawing of an accuſtomed ſtimulus of the ſyſtem may readily throw this into an atonic ſtate *.

DL.

The ſafety of an abſtemious courſe may be greater or leſs according to the management of it. It is animal food which eſpecially diſpoſes to the plethoric and inflammatory ſtate, and that food is to be therefore eſpecially avoided; but, on the other hand, it is vegetable aliment of the loweſt quality that is in danger of weakening the ſyſtem too much, by not affording ſufficient nouriſhment; and more particularly, of weakening the tone of the ſtomach by its aceſcency. It is therefore a diet of a middle nature that is to be choſen; and milk is preciſely of this kind, as containing both animal and vegetable matter.

As approaching to the nature of milk, and as being a vegetable matter containing the greateſt portion of nouriſhment, the farinaceous ſeeds are next to be choſen,

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* A ſudden change from a full to a ſpare diet was juſtly enumerated among the occaſional cauſes of the gout in article 504.

ſen, and are the food moſt proper to be joined with milk.

DLI.

With reſpect to drink, fermented liquors are uſeful only when they are joined with animal food, and that by their aceſcency; and their ſtimulus is only neceſſary from cuſtom. When, therefore, animal food is to be avoided, fermented liquors are unneceſſary; and, by increaſing the aceſcency of vegetables, theſe liquors may be hurtful. The ſtimulus of fermented or ſpiritous liquors, is not neceſſary to the young and vigorous; and, when much employed, impairs the tone of the ſyſtem. Theſe liquors, therefore are to be avoided, except ſo far as cuſtom and the declining ſtate of the ſyſtem may have rendered them neceſſary. For preventing or moderating the regular gout, water is the only proper drink.

DLII.

With reſpect to an abſtemious courſe, it has been ſuppoſed that an abſtinence from animal food and fermented liquors, or the living upon milk and farinacea alone for the ſpace of one year, might be ſufficient for a radical cure of the gout: and it is poſſible that, at a certain period of life, in certain circumſtances of the conſtitution, ſuch a meaſure might anſwer the purpoſe. But this is very doubtful; and it is more probable that the abſtinence muſt, in a great meaſure, be continued, and the milk diet be perſiſted in, for the reſt of life. It is well known, that ſeveral perſons who had entered on an abſtemious courſe, and had been thereby delivered from the gout, have, however, upon returning to their former manner of full living, had the diſeaſe return upon them with as much violence as before, or in a more irregular and more dangerous form.

DLIII.

It has been alledged, that for preventing the return of the gout, blood-letting, or ſcarifications of the feet, frequently repeated, and at ſtated times, may be practiſed with advantage; but of this I have had no experience.

DLIV.

Exerciſe and abſtinence are the means of avoiding the plethoric ſtate which gives the diſpoſition to the gout; and are therefore the means propoſed for preventing paroxyſms, or at leaſt for rendering them leſs frequent and more moderate. But many circumſtances prevent the ſteadineſs neceſſary in purſuing theſe meaſures: and therefore, in ſuch caſes, unleſs great care be taken to avoid the exciting cauſes, the diſeaſe may frequently return; and, in many caſes, the preventing of paroxyſms is chiefly to be obtained by avoiding thoſe exciting cauſes enumerated in DIV. The conduct neceſſary for avoiding them, will be ſufficiently obvious to perſons acquainted with the doctrines of the Hygieine, which I ſuppoſe to have been delivered in another place.

DLV.

A due attention in avoiding thoſe ſeveral cauſes, (DIII, DIV.) will certainly prevent fits of the gout; and the taking care that the exciting cauſes be never applied in a great degree, will certainly render fits more moderate when they do come on. But, upon the whole, it will appear, that a ſtrict attention to the whole conduct of life, is in this matter neceſſary *; and

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* The phyſician has more difficulty in perſuading his patients to a proper regimen in the gout than in any other diſeaſe; and if he would gain reputation, he ought to pay peculiar attention to this part of practice, and uſe his utmoſt art in convincing his patient of the neceſſity of abſtemious diet, and a regular conduct. Gouty patients are generally the genuine offspring of jolly Bacchus, and prefer the tranſient indulgence of their jovial inclinations to the ranſom of whole years of torment at the eaſy price of a life of ſobriety and temperance, until the invincible Queen of tortures, as Lucian calls her, fully convinces them of their errors. They are then anxious for medical advice, and after conſulting the phyſician, they are will-

and therefore, when the prediſpoſition has taken place, it will be extremely difficult to avoid the diſeaſe.

DLVI.

I am indeed firmly perſuaded, that, by obviating the prediſpoſition, and by avoiding the exciting cauſes, the gout may be entirely prevented: But as the meaſures neceſſary for this purpoſe will, in moſt caſes, be purſued with difficulty, and even with reluctance, men have been very deſirous to find a medicine which might anſwer the purpoſe without any reſtraint on their manner of living. To gratify this deſire, phyſicians have propoſed, and, to take advantage of it, empirics have feigned, many remedies, as we have already obſerved. Of what nature ſeveral of theſe remedies have been, I cannot certainly ſay; but, of thoſe which are unknown, we conclude, from their having been only of temporary fame, and from their having ſoon falling into neglect, that they have been either inert or pernicious, and therefore I make no inquiry after them; and ſhall now remark only upon one or two known remedies for the gout which have been lately in vogue.

DLVII.

One of theſe is what has been named in England the Portland Powder *. This is not a new medicine, but

ing implicitly to obey his ſtricteſt injunctions. They ſeldom, however, then find much relief; and remain living proofs of the truth of the adage:

————————ſero medicina paratur,
Cum mala per longas invaluere moras.

* This medicine was ſo called from one of the Dukes of Portland being cured by it of an hereditary and very inveterate gout. It conſiſts of equal parts of the following bitter aromatics: viz. Rad. ariſtolochiæ rotundæ, Rad. gentianæ, Summitat. chamedryos, ſummitat. chamæpityos, ſummitat. centaur. min. A drachm of this powder is ordered to be taken, in any convenient vehicle, as a little wine, broth, tea, &c. in a morning, faſting, the patient taſting nothing for an hour and an half after it; it muſt be uſed in this doſe for three months without the leaſt interruption: Forty-five grains

but is mentioned by GALEN, and with ſome little variation in its compoſition, has been mentioned by the writers of almoſt every age ſince that time. It ap-

are to be taken daily in the ſame manner, for the ſucceeding three months: half a drachm every day for the next ſix months; and half a drachm every other day, during the ſecond year. It is ſometimes two years complete before any change be produced, but the patient muſt not therefore abandon the medicine, but continue its uſe.

Theſe aromatic bitters have been long in uſe as remedies for the gout. We find Galen preſcribing in this diſeaſe the ſeeds and tops of wild rue, birthworth, leſſer centaury, gentian, &c. either ſingly, or mixed in certain proportions. Trillian deſcribes ſimilar antidotes, which he ſays, muſt be continued for a great length of time, viz. ſix or ſeven months, or even for a year and upwards. The tetra-pharmacon of Aetius, compoſed of gentian, birthworth, bayberries and myrrh, is a ſimilar remedy, and is alſo directed to be uſed for a great length of time. Cælius Aurelianus likewiſe mentions theſe bitters to be long uſed in the gout, and he gives them the apoſite epithet of annalia. The Diateſſeron, which has not been long thrown out of our ſhops, and is ſtill retained in ſome of the foreign pharmacopœias, is of the ſame kind. The uſe of theſe medicines has doubtleſs in many caſes completely cured the gout, but in many caſes, even in thoſe that have been cured, fatal diſeaſes have ſupervened. The ancients were well aware of the danger of an indiſcriminate uſe of theſe medicines: "Many," ſays Galen, "of a moderate and ſlender habit of body, have loſt their lives by the uſe of drinks compoſed of theſe kinds of remedies, their blood being dried up. The numerous arthritic caſes cured by theſe medicines, encouraged gouty people to have recourſe to them indiſcriminately, and without reflecting that thoſe, who had been cured by them, were of a humid and phlegmatic habit, to whom medicines of this ſort might be adminiſtered with ſafety." Ægineta has a ſimilar paſſage. "Thoſe," ſays he, "who endeavour to remove the diſeaſe entirely by medicines, to be uſed through the whole year, will doubtleſs do ſervice to ſuch patients as are infeſted with pituitous and excrementitious humours in their joints, but they will haſten an untimely death in perſons of a dry and hot habit of body, by forcibly driving the morbific matter on the inteſtines, kidneys, lungs, or ſome other of the principal bowels."

The antients, then, were aware of the danger attending the promiſcuous uſe of theſe remedies; and the moderns are ſtill more convinced of that danger: hence theſe aromatic bitters are entirely laid aſide, and in their place the peruvian bark is the only tonic now uſed in theſe caſes.

pears to have been at times in faſhion, and to have again fallen into neglect; and I think that this laſt has been owing to its having been found to be, in many inſtances, pernicious. In every inſtance which I have known of its exhibition for the length of time preſcribed, the perſons who had taken it were indeed afterwards free from any inflammatory affection of the joints: but they were affected with many ſymptoms of the atonic gout; and all, ſoon after finiſhing their courſe of the medicine, have been attacked with apoplexy, aſthma, or dropſy, which proved fatal.

DLVIII.

Another remedy which has had the appearance of preventing the gout, is an alkali in various forms, ſuch as the fixed alkali both mild and cauſtic, lime-water, ſoap, and abſorbent earths. Since it became common to exhibit theſe medicines in nephritic and calculous caſes, it has often happened that they were given to thoſe who were at the ſame time ſubject to the gout; and it has been obſerved, that, under the uſe of theſe medicines, gouty perſons have been longer free from the fits of their diſeaſe *. That, however, the uſe of

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* Some remarkable caſes have lately occured in this city of the efficacy of ærated alkaline water, in preventing the returns of the paroxyſms of the gout. It requires to be taken for a great length of time, to inſure ſucceſs; but the patient is encouraged to perſevere in its uſe, in conſequence of a ſpeedy removal of ſome of the moſt troubleſome ſymptoms. The method of making it is deſcribed by ſeveral authors; but, for the ſake of thoſe readers who are unacquainted with the proceſs I ſhall give an abſtract of it. Diſſolve three ounces, troy weight, of good ſalt of tartar in a gallon and an half of rain water, or good ſoft ſpring water; filtre the ſolution, and put as much of it into the middle glaſs of Parker's machine as will completely fill the veſſel, reſerving the remainder for a ſubſequent making. The effervefcing materials muſt then be put into the lower veſſel, and a gentle ſtream of fixed air muſt be made to paſs through the liquor till it taſtes evidently acidulous, which will probably require 48 or 60 hours, or in ſummer more. The method of managing the effervefcence is of conſiderable conſequence; for if it is too violent at firſt, much air eſcapes through the veſſels without

of theſe medicines has entirely prevented the returns of gout, I do not know; becauſe I never puſhed the uſe of thoſe medicines for a long time, being apprehenſive that the long continued uſe of them might produce a hurtful change in the ſtate of the fluids.

DLIX.

With reſpect to preventing the gout, I have only one other remark to offer. As the preventing the gout depends very much on ſupporting the tone of the ſtomach, and avoiding indigeſtion; ſo coſtiveneſs, by occaſioning this, is very hurtful to gouty perſons. It is therefore neceſſary for ſuch perſons to prevent or remove coſtiveneſs, and, by a laxative medicine, when needful; but it is at the ſame proper, that the medicine employed ſhould be ſuch as may keep the belly regular,

effect. Aſcertain, by previous experiment, how much of the vitriolic acid, which you have procured, (for it is of very different ſtrengths in the ſhops,) will ſaturate a drachm of the chalk. Put four ounces of dry powdered chalk into the lower veſſel, and ſhake it to one ſide; and under that ſide put a wedge, ſo as to raiſe it about an inch and an half from the table. With a long funnel, which reaches to the bottom of the veſſel, pour in the quantity of vitriolic acid neceſſary for the ſaturation, which will run down to the other ſide of the veſſel, and not come into contact with the chalk: through the ſame funnel, pour very ſlowly as much water as will be ſufficient to cover about a fourth part of the chalk as it then lies. The veſſel being gently ſhaken occaſionally, the effervescence will go on very ſlowly, and the alkaline liquor will be ſooner and more effectually ſaturated, than if the effervescence had been too violent. If the materials are not ſufficient for giving an acidulous taſte to the liquor, the lower veſſel muſt be waſhed, and freſh chalk and acid again put into it. The doſe of this water is half a pint about noon, and another in the evening. In urgent caſes half a pint has been given, morning, noon and night, for a conſiderable time together, without diſagreeing with the ſtomach, or injuring the appetite or general health of the patient. If it proves flatulent, a tea-ſpoonful or two, but not more, of ſpiritous cinnamon water may be taken in each doſe. If it inflames, or too violently irritates the urinary paſſages, five or ten, or in urgent caſes, twenty drops of laudanum may be taken with each doſe of the water.

regular, without much purging. Aloetics, rhubarb, magneſia alba, or flour of ſulphur, may be employed, as the one or the other may happen to be beſt ſuited to particular perſons*.

DLX.

Theſe are the ſeveral meaſures (from DXLII, to DLIX.) to be purſued in the intervals of the paroxyſms; and we are next to mention the meaſures proper during the time of them.

DLXI.

As during the times of paroxyſms the body is in a feveriſh ſtate, no irritation ſhould then be added to it:

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* The following formula may be uſed in particular caſes:

℞. Aloes Socotorin. ʒii.
Gum. Guaiac. ʒiii.
Tinct. Sacræ, q. ſ.
M. f. maſſa, in philulas equales
xv. dividenda;
quarum ſumat iii. vel. iv.
pro re nata.

℞. Pulv. Rad. Rhei, ʒiii.
Magneſ. alb. ʒſs.
Gum. Guaiac. ʒii.
Confect. Aromat. ʒii.
Syrup. comm. q. ſ.
M. f. Elect. cujus ſumat magnitudinem
juglandis mane et veſphere, vel pro re nata.

This laſt medicine has been extremely beneficial in removing coſtiveneſs, and in giving a tone to the ſtomach. An ounce, or an ounce and an half, or two ounces of the tinctura ſacra, is alſo a good purge for gouty perſons. The elixir ſennæ is likewiſe a good medicine where we cannot uſe aloetic purges, as in caſes of piles: in theſe caſes alſo we may uſe ſulphur; of which the following form is very convenient.

℞. Flor. Sulphuris ℥ii.
Elect. Lenitivi, ℥ii.
Pulv. Rad. Jalap. ʒii.
Zinzib. ʒii.
Syr. Simpl. q. ſ.
M. f. Elect. cujus ſumat quantitatem
juglandis pro re nata.

and every part, therefore, of the antiphlogiſtic regimen, (cxxx, to cxxxiii.) except the application of cold, ought to be ſtrictly obſerved.

Another exception to the general rule may occur when the tone of the ſtomach is weak, and when the patient has been before much accuſtomed to the uſe of ſtrong drink; for then it may be allowable, and even neceſſary, to give ſome animal food, and a little wine*.

DLXII.

That no irritation is to be added to the ſyſtem during the paroxyſms of gout, except in the caſes mentioned, is entirely agreed upon among phyſicians: But it is a more difficult matter to determine whether, during the time of paroxyſms, any meaſures may be purſued to moderate the violence of re-action and of inflammation. Dr. Sydenham has given it as his opinion, that the more violent the inflammation and pain, the paroxyſms will be the ſhorter, as well as the interval between the next paroxyſms longer: and, if this opinion be admitted as juſt, it will forbid the uſe of any remedies which might moderate the inflammation; which is, to a certain degree, undoubtedly neceſſary for the health of the body. On the other hand, acute pain preſſes for relief, and, although a certain degree of inflammation may ſeem abſolutely neceſſary, it is not certain but that a moderate degree of it may anſwer the purpoſe: And, it is even probable, that, in many caſes, the violence of inflammation may weaken the tone of the parts, and thereby invite a return of paroxyſms. It ſeems to me to be in this way, that, as the diſeaſe advances, the paroxyſms become more frequent.

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* The wine in theſe caſes ſhould be of the beſt kind, and ſuch as are not apt to turn ſour on the ſtomach. The dry wines, Sherry and Madeira, are moſt proper, while both the rich ſweet wines and the auſtere thin-acid wines are equally improper.

DLXIII.

From theſe laſt conſiderations, it ſeems probable, that during the time of paroxyſms, ſome meaſures may be taken to moderate the violence of the inflammation and pain; and particularly, that, in firſt paroxyſms, and in the young and vigorous, blood-letting at the arm may be practiſed with advantage: But I am perſuaded, that this practice cannot be repeated often with ſafety; becauſe blood-letting not only weakens the tone of the ſyſtem, but may alſo contribute to produce plethora. I believe, however, that bleeding by leeches on the foot, and upon the inflamed part, may be practiſed and repeated with greater ſafety; and I have known inſtances of its having been practiſed with ſafety, to moderate and ſhorten paroxyſms: but how far it may be carried, we have not had experience enough to determine.

DLXIV.

Beſides blood-letting, and the antiphlogiſtic regimen, it has been propoſed to employ remedies for moderating the inflammatory ſpaſm of the part affected, ſuch as warm bathing, and emollient poultices. Theſe have ſometimes been employed with advantage and ſafety; but, at other times, have been found to give occaſion to a retroceſſion of the gout*.

DLXV.

Bliſtering is a very effectual means of relieving and diſcuſſing a paroxyſm of the gout; but has alſo frequently had the effect of rendering it retrocedent†.

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* On this account theſe topical remedies ought to be uſed with great caution; the temporary relief which they afford, by procuring an intermiſſion of the pain, is agreeable to the patient, but it is frequently the occaſion of an exacerbation of all the ſymptoms.

† This is a very dangerous practice. Bliſters are however extremely uſeful, in bringing back the retrocedent gout to the part originally affected; but, the violent degree of pain that accompanies the gout, when brought to a part already irritated by the bliſ-

DLXVI.

The ſtinging with nettles I conſider as analogous to bliſtering; and I think it probable that it would be attended with the ſame danger.

DLXVII.

The burning with moxa*, or other ſubſtances, I conſider as a remedy of the ſame kind. I have had indeed no evidence of this proving hurtful; but neither have I had any proper evidence of its having proved a radical cure.

DLXVIII.

Camphire, and ſome aromatic oils, have the power of allaying the pain, and of removing the inflammation from the part affected: but theſe remedies commonly make the inflammation only ſhift from one part to another, and therefore with the hazard of its falling upon a part where it may be more dangerous; and they have ſometimes rendered the gout retrocedent.

DLXIX.

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ters, frequently prevents a patient who has once ſuffered it, from allowing it a ſecond time. It is however, ſo important and neceſſary a practice, that it ought not to be omitted. As ſoon as the gout has been brought back to its original place, the bliſters muſt be immediately removed, a piece of ſoft linen dipt in freſh oil, applied to the part, and the whole well wrapt up in ſoft flannel; a moderate degree of heat muſt be preſerved in the flannel, and the patient muſt be encouraged to bear with patience, the violent pain which he ſuffers.

* Moxa, is a ſoft lanuginous ſubſtance prepared in Japan, from the young leaves of a ſpecies of Artemiſia, by beating them when thoroughly dried, and rubbing them between the fingers till nothing but the fineſt fibres remain. A little cone of this cottony ſubſtance is laid upon the ſkin, which is previouſly moiſtened to prevent the cone from ſliding off. Fire is ſet to the apex of the cone, and it is ſuffered to burn till it extinguiſhes itſelf. A ſmall Eſchar is produced and the ulcer either healed or kept open as occaſion requires. Cotton impregnated with a ſmall quantity of a ſolution of nitre, and afterwards dried, anſwers the end as effectually as the Japoneſe moxa.

DLXIX.

From theſe reflections (DLXIV, et. ſeq.) it will appear, that ſome danger muſt attend every external application to the parts affected, during a paroxyſm; and that therefore the common practice of committing the perſon to patience and flannel alone, is eſtabliſhed upon the beſt foundation.

DLXX.

Opiates give the moſt certain relief from pain; but, when given in the beginning of gouty paroxyſms, occaſion theſe to return with greater violence. When, however, the paroxyſms ſhall have abated in their violence, but ſtill continue to return, ſo as to occaſion painful and reſtleſs nights, opiates may be then given with ſafety and advantage, eſpecially in the caſe of perſons advanced in life, and who have been often affected with the diſeaſe*.

DLXXI.

When, after paroxyſms have ceaſed, ſome ſwelling and ſtiffneſs ſhall remain in the joints, theſe ſymptoms are to be diſcuſſed by the diligent uſe of the fleſh-bruſh.

DLXXII.

Purging, immediately after a paroxyſm, will be always employed with the hazard of bringing it on again.

DLXXIII.

I have now finiſhed what has occurred to be ſaid upon the means of preventing and curing the regular gout; and ſhall now conſider its management when it has become irregular; of which, as I have obſerved above, there are three different caſes.

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* The beſt form for exhibiting opium, in theſe caſes is the Confectio Opiata of the London pharmacoœpia, or the Electarium Thebaicum of the Edinburgh. The doſe of the former is half a drachm, but of the latter a drachm and an half. As opiates ought never to be adminiſtered where the inflammation is violent, but only in ſuch caſes as are attended with little or no inflammation, theſe warm opiates cannot be improper. If however the practitioner ſhould find either of the above formulae too hot, he can have recourſe to the Tinctura Thebaica.

DLXXIV.

In the firſt caſe, which I have named the Atonic Gout, the cure is to be accompliſhed by carefully avoiding all debilitating cauſes; and by employing, at the ſame time, the means of ſtrengthening the ſyſtem in general, and the ſtomach in particular.

DLXXV.

For the avoiding debilitating cauſes, I muſt refer to the doctrines of the Hygieine, as in DLIV.

DLXXVI.

For ſtrengthening the ſyſtem in general, I muſt recommend frequent exerciſe on horſeback, and moderate walking. Cold bathing alſo may anſwer the purpoſe, and may be eaſily employed, if it appear to be powerful in ſtimulating the ſyſtem, and be not applied when the extremities are threatened with any pain*.

For ſupporting the tone of the ſyſtem in general, when threatened with atonic gout, ſome animal food† ought to be employed, and the more aceſcent vegetables ought to be avoided. In the ſame caſe, ſome wine‡ alſo may be neceſſary; but it ſhould be in moderate quantity, and of the leaſt aceſcent kinds; and, if

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[*] Cold bathing is a doubtful remedy, and ought to be uſed with caution. If it does not prove a tonic, it ought to be abandoned, and we know by experience that it frequently debilitates.

[†] The uſe of animal food is abſolutely neceſſary, and ſuch ought to be choſen as is moſt nutritive. Beef or Mutton, have been with propriety preferred to all other animal food, and ſome eminent practitioners have recommended ſteaks to every other mode of dreſſing beef and mutton. Stews, haſhes, pyes, and all high ſeaſoned diſhes, ought to be avoided.

[‡] The wine which a gouty patient uſes, ought to be generous and good, as maderia, ſherry, &c. the thin aceſcent wines as hock, claret, &c. always do miſchief.

if every kind of wine ſhall be found to increaſe the acidity of the ſtomach, ardent ſpirits and water muſt be employed[*].

DLXXVII.

For ſtrengthening the ſtomach, bitters and the Peruvian bark may be employed; but care muſt be taken that they be not conſtantly employed for any great length of time. Compare DLVII.

The moſt effectual medicine for ſtrengthening the ſtomach is iron, which may be employed under various preparations; but, to me, the beſt appears to be the ruſt in fine powder, which may be given in very large doſes[†].

For ſupporting the tone of the ſtomach, aromatics may be employed; but ſhould be uſed with caution, as the frequent and large uſe of them may have an oppoſite effect; and they ſhould therefore be given only in compliance with former habits, or for palliating preſent ſymptoms.

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[*] In order the more effectually to guard againſt aceſcency, the ſpirits and water ought, if poſſible, to be taken with ſugar, and cold. No drink is perhaps more prejudicial for gouty patients, than what is called rich punch, viz. with a large quantity of ſugar and lemon, eſpecially when taken warm.

[†] The doſe muſt be very ſmall at firſt, not exceeding four or five grains in the day; the doſes may be daily increaſed to two grains, till we arrive at 10 or 12, and after two or three days, 10 grains may be given twice a day. Aromatics always make it ſit eaſier on the ſtomach than it would do if taken alone; the moſt convenient form therefore is the following:

℞. Rubig. Martis, gr. 10.
Confect. Card. ʒſs.
Syr. Croci. q. ſ.
M. f. bolus.

After the patient has taken two of theſe boluſes for three or four days, he may proceed to take three of them, and after a few more days, if the ſtomach is not diſordered, each bolus may be daily increaſed till we arrive at 24, or even 30 grains, thrice a day

When the ſtomach happens to be liable to indigeſtion, gentle vomits may be frequently given; and proper laxatives* ſhould be always employed to obviate, or to remove, coſtiveneſs.

DLXXVIII.

In the atonic gout, or in perſons liable to it, to guard againſt cold is eſpecially neceſſary; and the moſt certain means of doing this is, by repairing to a warm climate during the winter-ſeaſon.

DLXXIX.

In the more violent caſes of the atonic gout, bliſtering the lower extremities may be uſeful; but that remedy ſhould be avoided when any pain threatens the extremities. In perſons liable to the atonic gout, iſſues may be eſtabliſhed in the extremities, as, in ſome meaſure, a ſupplement to the diſeaſe.

DLXXX.

A ſecond caſe of the irregular gout, is that which I have named the retrocedent. When this affects the ſtomach and inteſtines, relief is to be inſtantly attempted by the free uſe of ſtrong wines, joined with aromatics, and given warm; or if theſe ſhall not prove enough, ardent ſpirits muſt be employed, and are to be given in a large doſe. In moderate attacks, ardent ſpirits impregnated with garlic, or with aſa fœtida may be employed; or, even without the ardent ſpirits, a ſoluion of aſa fœtida with the volatile alkali may anſwer the purpoſe. Opiates are often an effectual remedy, and may be joined with aromatics, as in the electuarium Thebaicum†; or they may be uſeful-

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* The proper laxatives for gouty conſtitutions, are mentioned in a note on article 559.

† The following form is extremely efficacious, and at the ſame time pleaſant to the taſte; it may be repeated three or four times, if the firſt does not procure relief.

ly joined with volatile alkali and camphire*. Muſk has likewiſe proved uſeful in this diſeaſe.

When the affection of the ſtomach is accompanied with vomiting, this may be encouraged, by taking draughts of warm wine, at firſt with warm water, and afterwards without it; having at length recourſe, if neceſſary, to ſome of the remedies above mentioned, and particularly the opiates.

In like manner, if the inteſtines be affected with diarrhœa, this is to be at firſt encouraged, by taking plentifully of weak broth; and when this ſhall have been done ſufficiently, the tumult is to be quieted by opiates.

DLXXXI.

When the retrocedent gout ſhall affect the lungs, and produce aſthma, this is to be cured by opiates, by antiſpaſmodics†, and, perhaps, by bliſtering on the breaſt or back.

DLXXII.

℞. Elect. Thebaic. ʒi.
Aq. Cinnamon. ſpirituoſæ, ℥iſs.
Syr. Croci. ʒii.
M. f. hauſt.

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* The beſt way of giving theſe medicines is in the following form:

℞. Opii. purificati, gr. i.
Camphor. gr. xii.
Spt. Vini. q. ſ.
Confect. Cardiac. ʒii.
M. f. bolus.

Or the camphire may be made into a bolus with a drachm of the Elect. Thebaic. and forty drops of the Spiritus Aromaticus, in a glaſs of ſtrong wine, as Madeira or Sherry, may be drank after it.

† The Spiritus Ethereus Vitriolicus is a medicine uſed with much ſucceſs in theſe caſes. The doſe of it is from twenty to thirty drops in a glaſs of wine. The ethereal ſpirit is ſo very volatile, that it will wholly evaporate, if it be ſuffered to ſtand in the wine for a few minutes; it muſt therefore be drank ſpeedily: and the doſe may be repeated every two hours, in caſes of emergency. In moſt caſes laudanum will anſwer every purpoſe. Ammoniacum has been much recommended, and its powers in caſes of gouty aſthma have fre-

DLXXXII.

When the gout, leaving the extremities, ſhall affect the head, and produce pain, vertigo, apoplexy, or palſy, our reſources are very precarious. The moſt probable means of relief is, bliſtering the head; and if the gout ſhall have receded very entirely from the extremities, bliſters may be applied to theſe alſo. Together with theſe bliſterings, aromatics, and the volatile alkali, may be thrown into the ſtomach*.

DLXXXIII.

The third caſe of the irregular gout is what I have named the Miſplaced, that is, when the inflammatory affection of the gout, inſtead of falling upon the extremities, falls upon ſome internal part. In this caſe, the diſeaſe is to be treated by blood-letting, and by ſuch other remedies as would be proper in an idiopathic inflammation of the ſame parts.

DLXXXIV.

Whether the tranſlation ſo frequently made from the extremities to the kidneys, is to be conſidered as an inſtance of the miſplaced gout, ſeems, as we have ſaid before, uncertain: but I am diſpoſed to think it ſomething different; and therefore am of opinion, that, in the Nephralgia Calculoſa, produced upon this occaſion, the remedies of inflammation are to be employed no farther than they may be otherwiſe ſometimes neceſſary in that diſeaſe, ariſing from other cauſes than the gout.

BOOK

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quently been very conſpicuous. It may be given independent of the opiates. Two drachms of it may be made into an emulſion with ſix ounces of water: and a couple of table-ſpoonfuls of this emulſion may be given every two or three hours.

* Little relief has ever been obtained in theſe caſes from internal remedies. Large doſes of the Spiritus Aromaticus have been thought ſerviceable, but the chief dependence is on the effect of bliſters on the extremities, eſpecially the feet, with warm fomentations to the legs, and rubbing the legs with a fleſh bruſh, impregnated with plenty of dry flour of muſtard.

BOOK III.

OF EXANTHEMATA, OR ERUPTIVE FEVERS.

DLXXXV.

THE diſeaſes comprehended under this title, which make the third Order of Pyrexiæ, in our Noſology, are in general ſuch as do not ariſe but upon occaſion of a ſpecific contagion applied, which firſt produces fever, and afterwards an eruption upon the ſurface of the body; and which diſeaſes, for the moſt part, affect perſons but once in the courſe of their lives.

DLXXXVI.

Whether the Character of the Order may be thus limited, or if the Order may be allowed to comprehend alſo the eruptive fevers produced by a matter generated in the body itſelf, and likewiſe thoſe caſes which do not depend upon contagion, or upon a matter generated before the fever, but upon a matter generated in the courſe of the fever, I am not ready to determine. Of the diſeaſes enumerated by the Noſologiſts as *Exanthemata*, there are certainly three different kinds, which may be diſtinguiſhed by the circumſtances mentioned in this and the preceding paragraph. Of the firſt kind are the Small-pox, the Chicken-pox, the Meaſles, the Scarlet Fever, and the Plague. Of the ſecond kind ſeems to be the Eryſipelas; and of the third kind I judge the Miliaria and Petechia to be. But as I am not ſufficiently confident in the facts which ſhould ſupport theſe diſtinctions, or which would enable us to apply them in all caſes; I go on in this book to treat of almoſt all the exanthemata enumerated by preceding Noſologiſts, with only ſome difference in the arrangement from what it was in my former editions.

CHAP. I.

OF THE SMALL-POX.

DLXXXVII.

THE ſmall-pox is a diſeaſe ariſing from a contagion of a ſpecific nature, which firſt produces a fever, and, on the third or fourth day thereof, produces an eruption of ſmall red pimples. Theſe are afterwards formed into puſtules, containing a matter, which, in the courſe of eight days from the time of eruption, is changed into pus. After this, the matter dries, and falls off in cruſts.

DLXXXVIII.

This is a general idea of the diſeaſe; but there are two particular forms or varieties of it, well known under the appellations of the *Diſtinct* and *Confluent*, which require to be ſpecially deſcribed.

DLXXXIX.

In the former, or the diſtinct ſmall-pox, the eruptive fever is moderate, and appears to be evidently of the inflammatory kind, or what we name a Synocha. It generally comes on about mid-day, with ſome ſymptoms of a cold ſtage, and commonly with a conſiderable languor and drowſineſs. A hot ſtage is ſoon formed, and becomes more conſiderable on the ſecond and third days. During this courſe, children are liable to frequent ſtartings from their ſlumbers; and adults, if they are kept a-bed, are diſpoſed to much ſweating. On the third day, children are ſometimes affected with one or two epileptic fits. Towards the end of the third day, the eruption commonly appears, and gradually increaſes during the fourth; appearing firſt upon the face, and ſucceſſively on the inferior parts, ſo as to be completed over the whole body on the fifth day.

From the third day, the fever abates; and againſt the fifth, it entirely ceaſes. The eruption appears firſt in ſmall red ſpots, hardly eminent, but by degrees riſing into pimples. Theſe are generally upon the face in ſmall number; but even when more numerous, they are ſeparate and diſtinct from one another. On the fifth or ſixth day, a ſmall veſicle, containing an almoſt colourleſs or whey-coloured fluid, appears upon the top of each pimple. For two days, theſe veſicles increaſe in breadth only, and there is a ſmall hollow pit in their middle; ſo that it is only againſt the eighth day that they are raiſed into ſpheroidical puſtules.

Theſe veſicles or puſtules, from their firſt formation, continue to be ſurrounded with an exactly circular inflamed margin; which, when the puſtules are numerous, diffuſes ſome inflammation over the neighbouring ſkin, ſo as to give ſomewhat of a damaſk roſe colour to the ſpaces between the puſtules. As the puſtules increaſe in ſize, if they be numerous on the face, againſt the eighth day the whole of the face becomes conſiderably ſwelled; and, in particular, the eye-lids are ſo much ſwelled as entirely to ſhut the eyes.

As the diſeaſe thus proceeds, the matter in the puſtules becomes by degrees more opaque and white, and at length of a yellowiſh colour. On the eleventh day, the ſwelling of the face is abated, and the puſtules ſeem quite full. On the top of each a darker ſpot appears; and at this place the puſtule, on the eleventh day, or ſoon after, is ſpontaneouſly broken, and a portion of the matter oozes out; in conſequence of which, the puſtule is ſhrivelled, and ſubſides; while the matter oozing out dries, and forms a cruſt upon its ſurface. Sometimes a little only of the matter oozes out; and what remains in the puſtule becomes thick and even hard. After ſome days, both the cruſts and the hardened puſtules fall off, leaving the ſkin which they covered of a brown red colour; and it is only after many days that the ſkin in theſe places reſumes its natural colour. In ſome caſes, where the matter of the puſtules has been more liquid, the cruſts formed by it are later in falling off, and the part they covered ſuffers ſome deſquamation, which leaves in it a ſmall pit or hollow.

This is the courſe of things on the face; and ſucceſſively, the puſtules on the reſt of the body take the ſame. The matter of the puſtules, on the arms and hands, is frequently abſorbed; ſo that, at the height of the diſeaſe, theſe puſtules appear as empty veſicles. On the tenth and eleventh days, as the ſwelling of the face ſubſides, a ſwelling ariſes in the hands and feet; but which, again, ſubſides, as the puſtules come to maturity.

When the puſtules on the face are numerous, ſome degree of pyrexia appears on the tenth and eleventh days, but diſappears again after the puſtules are fully ripened; or perhaps remains in a very ſlight degree till the puſtules on the feet have finiſhed their courſe. It is ſeldom that in the diſtinct ſmall-pox the fever continues longer.

When the puſtules on the face are numerous, ſome uneaſineſs in the throat, with a hoarſeneſs of the voice comes on upon the ſixth or ſeventh day, and a thin liquid is poured out from the mouth. Theſe ſymptoms increaſe with the ſwelling of the face; and the liquids of the mouth and throat becoming thicker, are more difficultly thrown out. There is, at the ſame time, ſome difficulty of ſwallowing; ſo that liquids taken in to be ſwallowed are frequently rejected, or thrown out by the noſe. But all theſe affections of the fauces abate as the ſwelling of the face ſubſides*.

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* The diſcharge of Saliva is always ſalutary, and ought to be moderately encouraged. It is probably owing to the morbific mat-

DXC.

In the other form of ſmall-pox, or what is called the Confluent, the courſe of the diſeaſe is, in general, the ſame with that we have deſcribed; but the ſymptoms of every ſtage are more violent, and ſeveral of the circumſtances are different.

In particular, the eruptive fever is more violent. The pulſe is more frequent and more contracted, approaching to that ſtate of pulſe which is found in the typhus. The coma is more conſiderable, and there is frequently a delirium. Vomiting, alſo, is a common ſymptom, eſpecially at the coming on of the diſeaſe. In very young infants, epileptic fits are ſometimes frequent on the firſt days of the diſeaſe, and ſometimes proves fatal before any eruption appears; or they uſher in a very confluent and putrid ſmall-pox.

DXCI.

The eruption appears more early on the third day, and it is frequently preceded or accompanied with an eryſipelatous effloreſcence. Sometimes the eruption appears in cluſters, like that of the meaſles. When the eruption is completed, the pimples are always more numerous upon the face, at the ſame time ſmaller and leſs eminent. After the eruption, the fever ſuffers ſome remiſſion, but never goes off entirely; and, after the fifth or ſixth day, it again increaſes, and continues conſiderable through the remaining courſe of the diſeaſe.

The veſicles formed on the tops of the pimples appear ſooner; and while they increaſe in breadth, do not

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ter attacking the ſalivary glands, and through them making its exit out of the body. All the affections of the fauces, and the ſalivation, gradually abate as the ſwelling of the face ſubſides; but if theſe ſymptoms diſappear ſuddenly, or are not ſucceeded by a ſwelling of the extremities, danger is to be apprehended. This remark is ſolely the reſult of experience, and the explanation of it ſeems to be involved in conſiderable difficulty.

not retain a circular, but are every way of an irregular figure. Many of them run into one another, inſomuch that very often the face is covered rather with one veſicle than with a number of puſtules. The veſicles, ſo far as they are any-wiſe ſeparated, do not ariſe to a ſpheroidical form, but remain flat, and ſometimes the whole of the face is of an even ſurface. When the puſtules are in any meaſure ſeparated, their circumference is not bounded with an enflamed margin, and the part of the ſkin that is free from puſtules is commonly pale and flaccid.

The liquor that is in the puſtules changes from a clear to an opaque appearance, and becomes whitiſh or browniſh, but never acquires the yellow colour and thick conſiſtence that appear in the diſtinct ſmall-pox.

DXCII.

The ſwelling of the face which attends the diſtinct ſmall-pox, when they are numerous, and almoſt then only, always attends the confluent, comes on more early, and ariſes to a greater degree; but abates on the tenth day, and on the eleventh ſtill more. At this time the puſtules or veſicles break, and ſhrivelling pour out a liquor that is formed into brown or black cruſts, which do not fall off for many days after. Thoſe of the face, in falling off, leave the parts they cover ſubject to a deſquamation, which pretty certainly produces pittings.

On the other parts of the body, the puſtules of the confluent ſmall-pox are more diſtinct than upon the face, but never acquire the ſame maturity and conſiſtence of pus as in the properly diſtinct kind.

The ſalivation which only ſometimes attends the diſtinct ſmall-pox, very conſtantly attends the confluent; and both the ſalivation and the affection of the fauces above-mentioned are, eſpecially in adults, in a higher degree. In infants, a diarrhœa comes frequently in place of the ſalivation.

In the confluent ſmall-pox, there is often a conſiderable putreſcency of the fluids, as appears from petechiæ, from ſerous veſicles, under which the ſkin ſhows a diſpoſition to gangrene, and from bloody urine or other hæmorrhagy, all which ſymptoms frequently accompany this diſeaſe.

In the confluent ſmall-pox, the fever, which had only ſuffered a remiſſion from the time of eruption to that of maturation, is often, at or immediately after this period, renewed with conſiderable violence. This is what has been called the Secondary Fever; and is, in different caſes, of various duration and event.

DXCIII.

We have thus endeavoured to deſcribe the various circumſtances of the ſmall-pox; and from the difference of theſe circumſtances, the event of the diſeaſe may be determined. The whole of the prognoſis may be nearly compriſed in the following propoſitions.

The more exactly the diſeaſe retains the form of the diſtinct kind, it is the ſafer; and the more completely the diſeaſe takes the form of the confluent kind, it is the more dangerous.

It is only when the diſtinct kind ſhows a great number of puſtules on the face, or otherwiſe, by fever or putreſcency, approaches to the circumſtances of the confluent, that it is attended with any danger.

In the confluent ſmall-pox there is always danger; and this is always more conſiderable and certain, according as the fever is more violent and permanent, and eſpecially as the marks and ſymptoms of putreſcency are more evident.

When the putrid diſpoſition is very great, the diſeaſe ſometimes proves fatal before the eighth day; but in moſt caſes it is on the eleventh that death happens, and ſometimes it is put off till the fourteenth or ſeventeenth day.

Though the ſmall-pox ſhould not be immediately fatal, the more violent kinds are often followed by a morbid ſtate of the body, of various kind and event. Theſe conſequences, as I judge, may be imputed ſometimes to an acrid matter produced by the preceding diſeaſe, and depoſited in different parts; and ſometimes to an inflammatory diatheſis produced, and determined to particular parts of the body.

DXCIV.

It is, I think, agreed among practitioners, that, in the different caſes of ſmall-pox, the difference chiefly depends upon the appearance of diſtinct or confluent; and, from the above deſcription of theſe kinds, it will appear, that they chiefly differ in the period of the eruption, in the number of puſtules produced, in the form of the puſtules, in the ſtate of the matter contained in them, in the continuance of the fever, and laſtly in the danger of the diſeaſe.

DXCV.

Upon inquiring into the cauſes of theſe differences, we might readily ſuſpect, that they depended upon a difference of the contagion producing the diſeaſe. This, however, is not probable: for there are innumerable inſtances of the contagion, ariſing from a perſon labouring under the ſmall-pox of the diſtinct kind, producing the confluent; and on the contrary. Since the practice of inoculation became frequent, we have known the ſame variolous matter produce in one perſon the diſtinct, and in another the confluent ſmall-pox. It is therefore highly probable, that the difference of the ſmall-pox does not depend upon any difference of the contagion, but upon ſome difference in the ſtate of the perſons to whom it is applied, or in the ſtate of certain circumſtances concurring with the application of the contagion.

DXCVI.

DXCVI.

To find out wherein the difference in the ſtate of the perſons to whom the contagion of the ſmall-pox is applied conſiſts, I obſerve, that the difference between the diſtinct and confluent ſmall-pox conſiſts eſpecially in the number of puſtules produced; which, in the diſtinct, are generally few, in the confluent, always many. If, therefore, we ſhall be able to diſcover what, in the ſtate of different perſons, can give occaſion to more or fewer puſtules, we ſhall probably be able to account for all the other differences of the diſtinct and confluent ſmall-pox.

DXCVII.

It is evident, that the contagion of the ſmall-pox is a ferment with reſpect to the human fluids, and aſſimilates a great part of them to its own nature*; and it is probable, that the quantity thus aſſimilated, is, in proportion to the bulk of their ſeveral bodies, nearly the ſame in different perſons. This quantity paſſes again out of the body, partly by inſenſible perſpiration, and partly by being depoſited in puſtules; but if the quantities generated be nearly equal, the quantities paſſing out of the body by the two ways mentioned are very unequal in different perſons; and, therefore, if we can explain the cauſes which determine more to paſs by the one way than by the other, we may thereby diſcover the cauſes which give occaſion to more puſtules in one perſon than in another.

DXCVIII.

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* This opinion is moſt probably true, but it is by no means (as the author ſays,) evident. His reaſoning however, is ingenious, and deſerves attention. The expulſion, or rather evacuation of the morbific matter is admitted as the cure of the diſeaſe, and the difference of the diſeaſe to the different manner in which this evacuation is made: But the author has not proved either of the premiſſes he has advanced, viz. that the quantity of human fluids which the ferment aſſimilates, is nearly the ſame in different perſons, nor that any part of the morbific matter, or the morbid aſſimilated fluids paſs off by perſpiration.

DXCVIII.

The cauſes which determine more of the variolous matter to paſs by perſpiration, or to form puſtules, are probably certain circumſtances of the ſkin, that determine more or leſs of the variolous matter to ſtick in it, or to paſs freely through it.

DXCIX.

The circumſtance of the ſkin, which ſeems to determine the variolous matter to ſtick in it, is a certain ſtate of inflammation depending, much upon the heat of it. Thus we have many inſtances of parts of the body, from being more heated, having a greater number of puſtules than other parts. In the preſent practice of inoculation, in which few puſtules are produced, much ſeems to be owing to the care that is taken to keep the ſkin cool. Parts covered with plaſters, eſpecially with thoſe of a ſtimulant kind, have more puſtules than other parts. Further, certain circumſtances, ſuch as adult age, full living, determining to a phlogiſtic diatheſis, ſeem to produce a greater number of puſtules; while the contrary circumſtances have contrary effects.

DC.

It is therefore probable, that an inflammatory ſtate of the whole ſyſtem, and more particularly of the ſkin, gives occaſion to a greater number of puſtules: and the cauſes of this may likewiſe produce moſt of the other circumſtances of the confluent ſmall-pox; ſuch as the period of eruption; the continuance of the fever; the effuſion of a more putreſcent matter, and leſs fit to be converted into pus; and, what ariſes from thence, the form and other circumſtances of the puſtules.

DCI.

Having thus attempted to account for the chief difference which occurs in the ſtate of the ſmall-pox, we ſhall now try the truth of our doctrine, by its application to practice,

DCII.

In conſidering the practice, we view it firſt, in general, as ſuited to render the diſeaſe more generally benign and ſafe, and this by the practice of inoculation.

DCIII.

It is not neceſſary here to deſcribe the operation of inoculating; and what we name the practice of inoculation, comprehends all the ſeveral meaſures which precede or follow that operation, and are ſuppoſed to produce its ſalutary effects.

Theſe meaſures are chiefly the following,

1. The chooſing for the ſubject of inoculation perſons otherwiſe free from diſeaſe, and not liable, from their age or other circumſtances, to any incidental diſeaſe.

2. The chooſing a perſon at the time of life moſt favourable to a mild diſeaſe.

3. The chooſing for the practice a ſeaſon the moſt conducive to the mildneſs of the diſeaſe.

4. The preparing the perſon to be inoculated, by abſtinence from animal food for ſome time before inoculation.

5. The preparing the perſon by courſes of mercurial and antimonial medicines*.

6. The taking care, at the time of inoculation, to avoid cold, intemperance, fear, or other circumſtances, which might aggravate the future diſeaſe.

7. After theſe preparations and precautions, the chooſing a fit matter to be employed in inoculation, by taking it from a perſon of a ſound conſtitution, and free from any diſeaſe or ſuſpicion of it; by taking it from a perſon who has had the ſmall-pox of the moſt benign kind; and, laſtly, by taking the matter from

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* Compare this paragraph with what follows in article 609.

ſuch perſons, as ſoon as it has appeared in the puſtules, either in the part inoculated, or on other parts of the body.

8. The introducing, by inoculation, but a ſmall portion of the contagious matter.

9. After inoculation, the continuing the vegetable diet, as well as the employment of mercurial and antimonial medicines; and at the ſame time, frequently employing purgatives.

10. Both before and after inoculation, taking care to avoid external heat, either from the ſun, artificial fires, warm chambers, much cloathing, or being much in bed; and on the contrary, expoſing the perſon to a free and cool air.

11. Upon the appearance of the eruptive fever, the rendering that moderate by the employment of purgatives; by the uſe of cooling and antiſeptic acids, and eſpecially, by expoſing the perſon frequently to a cool and even a cold air, at the ſame time giving freely of cold drink.

12. After the eruption, the continuing the application of cold air, and the uſe of purgatives, during the courſe of the diſeaſe, till the puſtules are fully ripened.

DCIV.

Theſe are the meaſures propoſed and practiſed in the lateſt and moſt improved ſtate of inoculation; and the advantages obtained by the whole of the practice, or at leaſt by moſt of the meaſures abovementioned, are now aſcertained by a long experience to amount to this, That, in ninety-nine caſes of the hundred, inoculation gives a diſtinct ſmall-pox only, and that alſo very generally of the mildeſt form: but it will ſtill be uſeful, for the proper conduct of inoculation, to conſider the importance and utility of the ſeveral meaſures abovementioned, that we may thereby

more

more exactly determine upon what the advantages of inoculation more certainly depend.

DCV.

As the common infection may often ſeize perſons labouring under another diſeaſe, which may render the ſmall-pox more violent, it is obvious that inoculation muſt have a great advantage, by avoiding ſuch concurrence. But, as the avoiding ſuch concurrence may often, in the mean while, leave perſons expoſed to the common infection, it merits inquiry, whether every diſeaſed ſtate ſhould reſtrain from the practice of inoculation, or what are the particular diſeaſes that ſhould do ſo. This is not yet ſufficiently aſcertained by obſervation; and we have frequently remarked, that the ſmall-pox have often occurred with a diſeaſed ſtate of the body, without being thereby rendered more violent. In particular, we have obſerved, that a ſcrophulous habit, or even the preſence of ſcrophula, did not render the ſmall-pox more violent; and we have obſerved alſo, that ſeveral diſeaſes of the ſkin are equally innocent. I am of opinion, that they are the diſeaſes of the febrile kind, or ailments ready to induce or aggravate a febrile ſtate, that eſpecially give the concurrence which is moſt dangerous with the ſmall-pox. I dare not attempt any general rules; but I am diſpoſed to maintain, that, though a perſon be in a diſeaſed ſtate, if that ſtate be of uncertain nature and effect, and at the ſame time the ſmall-pox be exceedingly rife, ſo as to render it extremely difficult to guard againſt the common infection, it will aways be ſafer to give the ſmall-pox by inoculation, than to leave the perſon to take them by the common infection.

DCVI.

Though inoculation has been practiſed with ſafety upon perſons of all ages; yet, from what has actually occurred in the caſes of common infection, and from ſeveral other conſiderations, there is reaſon to conclude, that adults are more liable to a violent diſeaſe than perſons of younger years. At the ſame time, it is obſerved, that children, in the time of their firſt dentition, are liable, from this irritation, to have the ſmall-pox rendered more violent; and that infants, before the time of dentition, upon receiving the contagion of the ſmall-pox, are liable to be affected with epileptic fits, which frequently prove fatal. It is, therefore, upon the whole, evident, that, though circumſtances may admit, and even render inoculation at any age proper; yet, for the moſt part, it will be ſtill more adviſable to chooſe perſons at an age, after the firſt dentition is over, and before the time of puberty.

DCVII.

Though inoculation has been practiſed with ſafety at every ſeaſon of the year; yet, as it is certain that the cold of the winter may increaſe the inflammatory, and the heats of ſummer increaſe the putreſcent ſtate of the ſmall-pox, it is highly probable that inoculation may have ſome advantage, from avoiding the extremes, either of heat or cold.

DCVIII.

Although the original temperament and conſtitutions of men are not to be readily changed; it is ſufficiently certain, that the conditions of the human body may, by various cauſes, in many reſpects be occaſionally very much changed: and therefore, as the uſe of animal food may increaſe both the inflammatory and putreſcent ſtate of the human body, ſo it muſt render perſons, on receiving the contagion of the ſmall-pox, leſs ſecure againſt a violent diſeaſe; and, therefore, inoculation may derive ſome advantage from abſtinence from animal food, for ſome time before the inoculation is performed: but I am of opinion, that a longer time than that uſually preſcribed may be often neceſſary; and I am perſuaded, that the Scottiſh mothers who avoid giving their children animal food till they are paſt the ſmall-pox, render this diſeaſe in them of a milder kind.

DCIX.

I cannot deny that mercurial and antimonial medicines may have ſome effect in determining to a more free perſpiration, and therefore may be of ſome uſe in preparing a perſon for the ſmall-pox; but there are obſervations which render me doubtful as to their effect. The quantity of both theſe medicines, particularly the antimony, commonly employed, is too inconſiderable to produce any effect. It is true, that the mercurials have often been employed more freely; but even their ſalutary effects have not been evident, and their miſchievous effects have ſometimes appeared. I doubt, therefore, upon the whole, if inoculation derives any advantage from theſe pretended preparatory courſes of medicines.

DCX.

As it has been often obſerved, in the caſe of almoſt all contagions, that cold, intemperance, fear, and ſome other circumſtances, concurring with the application of the contagion, have greatly aggravated the future diſeaſe, ſo it muſt be the ſame in the caſe of the ſmall-pox; and it is undoubted, that inoculation muſt derive a great, and perhaps its principal, advantage, from avoiding the concurrences abovementioned.

DCXI.

It has been commonly ſuppoſed, that inoculation has derived ſome advantage from the choice of the matter employed in it; but, from what has been obſerved in DXCV. it muſt appear very doubtful if any choice be neceſſary, or can be of any benefit in determining the ſtate of the diſeaſe *.

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* To remove all ſuſpicion, however, it is doubtleſs better to inoculate with matter taken from a mild ſtate of the diſeaſe.

DCXII.

It has been ſuppoſed by ſome, that inoculation has an advantage, introducing a ſmall portion only of the the contagious matter: But this reſts upon an uncertain foundation. It is not known what quantity is introduced by the common infection, and it may be a ſmall quantity only. Although it were larger than that thrown in by inoculation, it is not aſcertained that the cirumſtance of quantity would have any effect. A certain quantity of ferment may be neceſſary to excite fermentation in a given maſs: but that quantity given, the fermentation and aſſimilation are extended to the whole maſs; and we do not find that a greater quantity than is juſt neceſſary, either increaſes the activity of the fermentation, or more certainly ſecures the aſſimilation of the whole. In the caſe of the ſmall-pox, a conſiderable difference in the quantity of contagious matter introduced, has not diſcovered any effect in modifying the diſeaſe.

DCXIII.

Purging has the effect of diminiſhing the activity of the ſanguiferous ſyſtem, and of obviating its inflammatory ſtate. It is therefore probable, that the frequent uſe of cooling purgatives is a practice attending inoculation which may be of conſiderable advantage; and, probable, it is alſo uſeful by diminiſhing the determination to the ſkin. It appears to me, that mercurials and antimonials, as they are commonly managed, are uſeful only as they make a part of the purging courſe *.

DCXIV.

It is probable, that the ſtate of the ſmall-pox depends

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* All purgatives are extremely nauſeous to children; and it is of little conſequence what purgatives we uſe, if we only avoid the hot draſtic ſtimulants, we ought to pay attention to the agreeableneſs of the form. Children may in general be deceived by the following device: Put half an ounce of Senna leaves (after the ſtalks are all picked out) into a tea-pot, with a quarter of an ounce of green

pends very much upon the ſtate of the eruptive fever, and particularly upon moderating the inflammatory ſtate of the ſkin; and, therefore, it is probable, that the meaſures taken for moderating the eruptive fever and inflammatory ſtate of the ſkin, afford the greateſt improvement which has been made in the practice of inoculation. The tendency of purging, and the uſe of acids for this purpoſe, is ſufficiently obvious; and upon the ſame ground, we ſhould ſuppoſe, that blood-letting might be uſeful; but probably this has been omitted, for the ſame reaſon that might perhaps have led to the omiſſion of other remedies alſo; which is, that we have found a more powerful and effectual one in the application of cold air, and the uſe of cold drink. Whatever doubts or difficulties our theory might preſent to us on this ſubject, they may be entirely neglected,

tea; pour on it a quart of boiling water. Let the child ſee it poured into a tea-cup, ſweetened with plenty of moiſt ſugar, and cream put to it. The child will drink it with avidity. A tea-cupful may be given every hour till it begin to operate.

If this device ſhould fail a ſecond time, another ſhould be uſed in its ſtead. Two drachms of Senna-leaves, powdered, may be added to half a pound of ginger-bread paſte; the maſs may be divided into fifteen ſmall cakes to be baked: give the child one of theſe cakes every half-hour till it begins to operate, or till he has taken a ſufficient doſe for his age. A drachm of jalap may be uſed inſtead of the Senna. If neither of theſe artifices ſucceed, a doſe of powdered ſenna, with or without a little ginger, may be given in orange marmalade.

Children will ſometimes eat as many tamarinds as will ſufficiently anſwer all the intentions of a formal purge. A little Caſſia-pulp, added to the tamarinds, will increaſe their activity, and will not be eaſily perceived by the child.

The empirics have committed many ſtrange chemical blunders in compounding their purges for inoculation. Dimſdale's powder may ſerve as an example: it conſiſts of tartar emetic, and crabs claws. The calcareous earth deprives the tartar emetic of it's acid; in conſequence of which, the antimony will be inert, except it accidentally meets with an acid in the ſtomach; and even then the acid muſt be in ſuch a quantity as to ſaturate the crabs claws, before it can act on the antimonial calx.

lected, as the practice of Indoſtan had long ago, and the practice of this country has lately, by a large and repeated experience, aſcertained the ſafety and efficacy of this remedy: and as it may and can be more certainly employed with the practice of inoculation, than it can be in caſes of common infection, it muſt give a ſingular advantage to the former *.

DCXV.

After the eruption, when a few pimples only have appeared on the face, the continuing the application of cold air, and the employment of purgatives, has indeed been the practice of many inoculators: but I think, theſe practices cannot be ſaid to give any peculiar advantages to inoculation; for when the ſtate of the eruption is determined, when the number of puſtules is very ſmall, and the fever has entirely ceaſed, I hold the ſafety of the diſeaſe to be abſolutely aſcertained, and the further uſe of remedies entirely ſuperfluous. In ſuch caſes, I judge the uſe of purgatives to be not only unneceſſary, but that they may be often hurtful.

DCXVI.

I have thus conſidered the ſeveral circumſtances and practices accompanying inoculation, and have endeavoured to aſcertain the utility and importance of each. Upon the whole, I hope I have ſufficiently aſcertained the general utility and great advantage of this practice, eſpecially conſiſting in this, that if certain precautions, preparations, and remedies, are of importance, all of them can be employed with more certainty

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* Notwithſtanding the juſtneſs of this remark, bleeding ought to be employed, except in caſes where the phlogiſtic diatheſis and ſymptoms are violent: the fright which children ſuffer in conſequence of the operation, may be productive of much miſchief; and purgatives when properly adminiſtered, ſupercede the neceſſity of bleeding, eſpecially when the cold regimen is employed at the ſame time.

certainty in the practice of inoculation, than in the caſe of common infection*.

It remains now that I ſhould offer ſome remarks on the conduct of the ſmall-pox, as received by infection, or even when, after inoculation, the ſymptoms ſhall prove violent. The latter ſometimes happens, although every precaution and remedy have been employed. The cauſe of this is not well known; but it appears to me to be commonly owing to a diſpoſition of the fluids to putreſcency. But, however this may be, it will appear, that, not only in the caſe of common infection, but even in that for inoculation, there may be occaſion for ſtudying the conduct of this diſeaſe, in all its poſſible varying circumſtances.

DCXVII.

When, from the prevailing of ſmall-pox as an epidemic, and more eſpecially when it is known that a perſon not formerly affected with the diſeaſe has been expoſed to the infection, if ſuch perſon ſhould be ſeized with the ſymptoms of fever, there can be little doubt of its being an attack of the ſmall-pox; and therefore he is to be treated in every reſpect as if the diſeaſe had been received by inoculation. He is to be freely expoſed to a cool air, to be purged, and to have cooling acids given liberally*.

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* The author ſeems to have forgotten a frequent conſequence of inoculation, that demands ſome attention, viz. an inflammation of the axillary glands, that often terminates in ſuppuration. Many caſes of this kind occurred to me in practice, and I attempted ſeveral methods of preventing the ſuppuration; of which I found the following the moſt efficacious: If only one arm had been punctured, the gland of that arm, when ſuch an accident happened, and not of the other, was inflamed. In attempting the reſolution, which perhaps ſome practitioners may think improper, I applied cold compreſſes, impregnated with a ſolution of Saccharum Saturni, to the inflamed gland, and a warm poultice to the ulcer of the puncture. The conſequence was an increaſed diſcharge from the puncture, and a diminution of the axillary ſwelled gland. No ill conſequence attended any of thoſe caſes where the tumour was thus reſolved; but when theſe tumours ſuppurate, they are apt to produce ſinous ulcers, very difficult to heal.

DCXVIII.

If theſe meaſures moderate the fever, nothing more is neceſſary: But if the nature of the fever attacking a perſon be uncertain; or if, with ſuſpicions of the ſmall-pox, the ſymptoms of the fever be violent; or even if, knowing the diſeaſe to be ſmall-pox, the meaſures mentioned DXCVII. ſhall not moderate the fever ſufficiently; it will be proper to let ſome blood: and this will be more eſpecially proper, if the perſon be an adult, of a plethoric habit, and accuſtomed to full living†.

DCXIX.

In the ſame circumſtances, we judge it will be always proper to give a vomit, as uſeful in the commencement of all fevers, and more eſpecially in this, where a determination to the ſtomach appears from pain and ſpontaneous vomiting.

DCXX.

It frequently happens, eſpecially in infants, that, during the eruptive fever of the ſmall-pox, convulſions occur. Of theſe, if only one or two fits appear on the evening preceding the eruption, they give a favourable prognoſtic of a mild diſeaſe, and require no remedy; but if they occur more early, and be violent and frequently repeated, they are very dangerous, and require a ſpeedy remedy. For this purpoſe, bleeding is hardly ever of ſervice; bliſtering always comes

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* The cooling acids have been deſcribed in former notes, on par. 131 and 134. Whey made with cream of tartar is very uſeful in the ſmall-pox, as it is a cooling drink, and at the ſame time laxative. It is made by throwing into a quart of boiling milk half an ounce or ſix drachms of powdered cream of tartar.

† This practice is moſt judicious, and ought to be ſtrictly followed.

comes too late; and the only remedy I have found effectual, is an opiate given in a large doſe*.

DCXXI.

Theſe are the remedies neceſſary during the eruptive fever; and if, upon the eruption, the pimples upon the face be very few and diſtinct, the diſeaſe is no further of any danger, requires no remedies, and the purgatives, which, as has been ſaid before, are by ſome practitioners continued, prove often hurtful.

But when, upon the eruption, the pimples on the face are very numerous; when they are not diſtinct; and eſpecially when, upon the fifth day, the fever does not ſuffer a conſiderable remiſſion†, the diſeaſe will ſtill require a great deal of attention.

DCXXII.

If, after the eruption, the fever ſhall continue; the avoiding heat, and the continuing to expoſe the body to a cool air, will ſtill be proper. If the fever be conſiderable, with a full and hard pulſe, in an adult perſon, a bleeding will be neceſſary; and, more certainly, a cooling purgative. It is, however, ſeldom that a repetition of the bleeding will be proper, as a loſs of ſtrength does uſually come on very ſoon; but the repetition of a purgative, or the frequent uſe of laxative glyſters, is commonly uſeful‡.

DCXXIII.

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* The doſes for children in theſe caſes are as follows: A child of half a year, 5 drops of laudanum: From half a year to a year, 6 drops. From one to two years 7 or 8: From two to three, 9 or 10: Five years, 12, or at moſt 15. Theſe are large doſes, and are ſuch as are only to be given to robuſt children.

† The practitioner ought to be particularly attentive to the ſymptoms which appear on the fifth day. The ſubſequent paragraphs render any farther remarks needleſs.

‡ Laxative glyſters are preferable to repeated purgatives, on account of their not debilitating the patient ſo much as purgatives. The following form has been found very effectual:

℞. Fol. Sennæ, ʒſs.
Sal. cathart. amar. ℥i.
Aq. bullient. lb. 1.

DCXXIII.

When a loſs of ſtrength, with other marks of a putreſcent tendency of the fluids, appears, it will be neceſſary to exhibit the Peruvian bark in ſubſtance, and in large quantity*. In the ſame caſe, the free uſe of acids, and of nitre§, is uſeful; and it is commonly proper alſo to give wine very freely†.

DCXXIV.

From the fifth day of the diſeaſe, onward through the whole courſe of it, it is proper to give an opiate once or twice a day; taking care, at the ſame time, to obviate coſtiveneſs, by purgatives, or laxative glyſters.

DCXXV.

In a violent diſeaſe, from the eighth to the eleventh day, it is proper to lay on bliſters ſucceſſively on different parts of the body; and that without regard to the parts being covered with puſtules.

DCXXVI.

If, in this diſeaſe, the tumour of the fauces be conſiderable; the deglutition difficult; the ſaliva and mucus viſcid, and with difficulty thrown out; it will be proper to apply bliſters to the external fauces, and to employ diligently detergent gargles‡.

DCXXVII.

Colaturæ frigidæ adde.
Syr. e Spin. Cervin. ℥i.
Ol. Olivar. ℥ſs.
M.

Or even a ſimple ſolution of Epſom ſalt in warm water.

* The method of giving the bark in the ſmall pox, is the ſame with that mentioned in the note on article 217. For children, the glyſter there mentioned, is extremely convenient, and proves wonderfully efficacious.

§ The Spiritus Nitri dulcis is the beſt form in which nitre can be given to children. See the notes on article 131.

† The wine beſt ſuited to theſe caſes is port wine; but as children ſometimes loath it, good claret may be ſubſtituted in its place.

‡ The beſt detergent gargles in this caſe, are the tincture of roſes

DCXXVII.

During the whole courſe of the diſeaſe, when any conſiderable fever is preſent, the frequent exhibition of antimonial medicines, in nauſeating doſes, has been found uſeful*; and theſe, for the moſt part, ſufficiently anſwer the purpoſe of purgatives.

DCXXVIII.

The remedies mentioned from DCXXII. to DCXXVI. are thoſe frequently neceſſary, from the fifth day, till the ſuppuration is finiſhed. But as, after that period, the fever is ſometimes continued and increaſed; or, as ſometimes, when after there has been little or no fever before, a fever now ariſes, and continues with conſiderable danger; this is what is called the Secondary Fever, and requires particular treatment.

DCXXIX.

When the ſecondary fever follows the diſtinct ſmall-pox, the pulſe is full and hard, the caſe is to be treated as an inflammatory affection, by bleeding and purging. But, if the ſecondary fever follow the confluent ſmall-pox, and be a continuance or exacerbation of the fever which had ſubſiſted before, it is to be conſidered as of the putrid kind; and in that caſe, bleeding is improper. Some purging may be neceſſary; but the remedies to be chiefly depended on, are the Peruvian bark and acids†.

When

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with honey; or the gargle of ſage and roſe tea, with vinegar and honey, mentioned in the note on article 317; or Dr. Fothergill's gargle deſcribed in that note.

[*] A ſolution of two grains of emetic tartar in eight ounces of water anſwers this intention very effectually. The doſe is to be determined by the nauſeating effect produced: a table-ſpoonful of the ſolution may be given occaſionally every two or three hours. Care, however, muſt be taken, that vomiting is not produced: and, at the ſame time, a ſufficient quantity muſt be given to produce a nauſea. Both theſe circumſtances depend on the age, ſtrength, and conſtitution of the patient and on the violence of the diſeaſe.

[†] The ſecondary fever is always the worſt, and moſt dangerous

When the ſecondary fever firſt appears, whether it is after a diſtinct or a confluent ſmall-pox, it will be uſeful to exhibit an antimonial emetic in nauſeating doſes, but in ſuch manner as to produce ſome vomiting.

DCXXX.

For avoiding the pits which frequently follow the ſmall-pox, many different meaſures have been propoſed; but none of them appear to be ſufficiently certain*.

CHAP. II.

OF THE CHICKEN-POX.

DCXXXI.

THIS diſeaſe ſeems to depend upon a ſpecific contagion, and to affect perſons but once in their lives. It is hardly ever attended with any danger; but

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ſtage of the diſeaſe. In the diſtinct ſmall-pox, it ſeldom occurs, but it is a conſtant attendant on the confluent kind. It ſeems to be owing to the abſorption of the matter; for it never appears, evidently at leaſt, till after the ſuppuration: and ceteris paribus, it is always more violent in proportion to the quantity of puſtules. Some authors recommend opening the puſtules, in order to evacuate the matter, as a preventative againſt the ſecondary fever; and when the eruption is large, this practice is adviſable.

The peruvian bark muſt be given in theſe caſes in the largeſt quantities that the ſtomach can bear, and alſo in glyſters as formerly mentioned. Some practitioners, beſide the internal uſe of bark, and giving it in glyſters, have adviſed it to be applied externally by throwing the dry powder on thoſe parts of the body that are moſt exulcerated.

* The moſt effectual means of preventing pits, are, to avoid much expoſure to the cold air, to anoint the face with oil, &c.

but as it ſeems frequently to have given occaſion to the ſuppoſition of a perſon's having the ſmall-pox twice, it is proper to ſtudy this diſeaſe, and to diſtinguiſh it from the genuine ſmall-pox*.

DCXXXII.

This may be generally done by attending to the following circumſtances.

The eruption of the chicken-pox comes on with very little fever preceding it, or with fever of no determined duration.

The pimples of the chicken-pox, more quickly than thoſe of the ſmall-pox, are formed into little veſicles or puſtules.

The matter in theſe puſtules remains fluid, and never acquires the colour or conſiſtence of the pus which appears in the puſtules of the ſmall-pox.

The puſtules of the chicken-pox are always in three or four days from the firſt appearance, formed into cruſts.

See Dr. Heberden in Med. Tranſact. Vol. I. art. xvii.

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CHAP. III.

OF THE MEASLES.

DCXXXIII.

THIS diſeaſe alſo depends upon a ſpecific contagion, and affects perſons but once in their lives.

DCXXXIII.

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* As this diſeaſe is generally mild, and ſcarcely ever requires the aſſiſtance of art in the cure, the author very properly paſſes it over in a curſory manner. It ſometimes, however, very much reſembles the mild ſmall-pox; and in ſuch caſes may require the treatment which has been recommended as ſerviceable in that diſeaſe.

DCXXXIV.

It occurs moſt frequently in children; but no age is exempted from it, if the perſons have not been ſubjected to it before.

DCXXXV.

It commonly appears as an epidemic, firſt in the month of January, and ceaſes ſoon after the ſummer ſolſtice; but various accidents, introducing the contagion, may produce the diſeaſe at other times of the year.

DCXXXVI.

The diſeaſe always begins with a cold ſtage, which is ſoon followed by a hot, with the ordinary ſymptoms of thirſt, heat, anorexia, anxiety, ſickneſs, and vomiting; and theſe are more or leſs conſiderable in different caſes. Sometimes from the beginning, the fever is ſharp and violent; often, for the firſt two days, it is obſcure and inconſiderable, but always becomes violent before the eruption, which uſually happens upon the fourth day.

DCXXXVII.

This eruptive fever from its commencement, is always attended with hoarſeneſs, with a frequent hoarſe dry cough, and frequently with ſome difficulty of breathing. At the ſame time, the eye-lids are ſomewhat ſwelled, the eyes are a little inflamed, and pour out tears; and, together with theſe ſymptoms, there is a coryza, and frequent ſneezing. For the moſt part, a conſtant drowſineſs attends the beginning of this diſeaſe.

DXXXVIII.

The eruption, as we have ſaid, commonly appears upon the fourth day, firſt on the face, and ſucceſſively on the lower parts of the body. It diſcovers itſelf firſt in ſmall red points; but, ſoon after a number of theſe appear in cluſters, which do not ariſe into viſible pimples, but by the touch are found to be a little prominent. This is the caſe on the face; but on other parts of the body, the prominence, or roughneſs, is hardly to be perceived. On the face the eruption retains its redneſs, or has that increaſed for two days: but, on the third, the vivid redneſs is changed to a browniſh red: and, in a day or two more, the eruption entirely diſappears, while a meally deſquamation takes place. During the whole time of the eruption, the face is ſomewhat turgid, but ſeldom conſiderably ſwelled.

DCXXXIX.

Sometimes, after the eruption has appeared, the fever ceaſes entirely: but this is ſeldom the caſe; and more commonly the fever continues, or is increaſed after the eruption, and does not ceaſe till after the deſquamation. Even then the fever does not always ceaſe, but continues with various duration and effect.

DCXL.

Though the fever happen to ceaſe upon the eruption's taking place, it is common for the cough to continue till after the deſquamation, and ſometimes much longer.

In all caſes, while the fever continues, the cough alſo continues, generally with an increaſe of the difficulty of breathing; and both of theſe ſymptoms ſometimes ariſes to a degree that denotes a pneumonic affection. This may ariſe at any period of the diſeaſe; but very often it does not come on till after the deſquamation of the eruption.

After the ſame period, alſo, a diarrhœa frequently comes on, and continues for ſome time.

DCXLI.

It is common for the meaſles, even when they have not been of a violent kind, to be ſucceeded by inflammatory affections, particularly ophthalmia and phthiſis.

DCXLII.

If the blood be drawn from a vein during the meaſles, with the circumſtances neceſſary to favour the ſeparation of the gluten, this always appears ſeparated, and lying on the ſurface of the craſſamentum, as in inflammatory diſeaſes.

DCXLIII.

For the moſt part of the meaſles, even when violent, are without any putrid tendency; but in ſome caſes ſuch a tendency appears, both in the courſe of the diſeaſe, and eſpecially after the ordinary courſe of it is finiſhed. See Dr. Watſon, in London Med. Obſervations, Vol. IV. art. xi.

DCXLIV.

From what is delivered, from DCXXXVII, to DCXLII, it will appear, that the meaſles are diſtinguiſhed by a catarrhal affection, and by an inflammatory diatheſis to a conſiderable degree; and therefore the danger attending them ariſes chiefly from the coming on of a pneumonic inflammation.

DCXLV.

From this conſideration it will be obvious, that the remedies eſpecially neceſſary, are thoſe which may obviate and diminiſh the inflammatory diatheſis; and therefore, in a particular manner, blood-letting. This remedy may be employed at any time in the courſe of the diſeaſe, or after its ordinary courſe is finiſhed. It is to be employed more or leſs according to the urgency of the ſymptoms of fever, cough, and dyſpnœa; and generally may be employed very freely*. But, as the ſymptoms of pneumonic inflammation ſeldom come on during the eruptive fever; and, as this fever is ſometimes violent immediately before the eruption, though a ſufficiently mild diſeaſe be to follow; ſo

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* Bleeding ought to be uſed where it is abſolutely neceſſary; but, too free a uſe of it has been attended with a long continued weakneſs, and a very ſlow recovery.

bleeding is ſeldom very neceſſary during the eruptive fever, and may often be reſerved for the periods of greater danger which are perhaps to enſue.

DCXLVI.

In all caſes of meaſles, where there are no marks of putreſcency, and where there is no reaſon, from the known nature of the epidemic, to apprehend putreſcency, bleeding is the remedy to be depended upon: but aſſiſtance may alſo be obtained from cooling purgatives; and particularly from bliſtering on the ſides, or between the ſhoulders.

DCXLVII.

The dry cough may be alleviated by the large uſe of demulcent pectorals, mucilaginous, oily, or ſweet*. It may, however, be obſerved, with reſpect to theſe demulcents, that they are not ſo powerful in involving and correcting the acrimony of the maſs of blood as has been imagined; and that their chief operation is by beſmearing the fauces, and thereby defending them from the irritation of acrids, either ariſing from the lungs, or diſtilling from the head.

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* Two ounces of pearl-barley, and four ounces of dried figs, cut, boiled in a gallon of water to 3 quarts, is a good drink in theſe caſes. If the patient loaths this drink, Lintſeed-tea, or a ſlight infuſion of Orris-root in boiling water, may be ſubſtituted in its place; or a ſolution of an ounce of gum arabic in a pint of water. Oily emulſions, are alſo recommended; the moſt uſual is the following:

℞. Ol. Amygdal. ℥ii.
Aq. Font. ℥vi.
Alkali Cauſtic. q. ſ. ut fiat Emulſ. cui adde
Syrup. Althææ, ʒii.

The patient may take half a tea-cupful of this emulſion occaſionally, when the cough is moſt troubleſome. The cough may alſo be relieved, by taking now and then a tea-ſpoonful of the following Linctus:

℞. Ol. Amygdal.
Syrup Althææ.
Conſerv. Cynoſbat. ā ā. ʒi.
M. of Linct.

Or the following.

℞. Mel. anglic.
Ol. Amygdal. ā ā ℥ii.
Succ. Limon. ℥i.
M. of Linct.

DCXLVIII.

For moderating and quieting the cough in this diſeaſe, opiates certainly prove the moſt effectual means, whenever they can be ſafely employed. In the meaſles, in which an inflammatory ſtate prevails in a conſiderable degree, opiates may be ſuppoſed to be inadmiſſible; and, in thoſe caſes in which a high degree of pyrexia and dyſpnœa ſhew either the preſence, or at leaſt the danger, of pneumonic inflammation, I think that opiates might be very hurtful. In caſes, however, in which the dyſpnœa is not conſiderable, and where bleeding, to obviate or abate the inflammatory ſtate, has been duly employed, and where the cough and watchfulneſs are the urgent ſymptoms, I think that opiates may be ſafely exhibited, and with great advantage*. I think, further, that, in all the exanthemata, there is an acrimony diffuſed over the ſyſtem, which gives a conſiderable irritation; and, for obviating the effects of this, opiates are uſeful, and always proper, when no particular contra-indication prevails.

DCXLIX.

When the deſquamation of the meaſles is finiſhed, though there ſhould then be no diſorder remaining, phyſicians have thought it neceſſary to purge the pa-

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* Opiates in all inflammatory caſes ought to be cautiouſly uſed. The danger ariſing from them is conſiderably obviated, by uſing only the gummy part of the opium, and therefore the watery ſolution of opium, is in theſe caſes preferable to any other form. The ſyrupus papaveris albi, is an opiate peculiarly adapted to this diſeaſe; the doſe of it is immaterial, provided we do not exceed four ounces in the four and twenty hours; a table-ſpoonful may be taken when the cough is troubleſome, and may be repeated every two or three hours, according to the urgency of the ſymptoms.

tient ſeveral times, with a view to draw off the dregs of this diſeaſe, that is, a portion of the morbific matter which is ſuppoſed to remain long in the body. I cannot reject this ſuppoſition; but, at the ſame time, cannot believe, that the remains of the morbific matter, diffuſed over the whole maſs of blood, can be entirely drawn off by purging; and it appears to me, that, to avoid the conſequences of the meaſles, it is not the drawing off the morbific matter which we need to ſtudy, ſo much as the obviating and removing the inflammatory ſtate of the ſyſtem which had been induced by the diſeaſe. With this laſt view, indeed, purging may ſtill be a proper remedy; but bleeding, in proportion to the ſymptoms of inflammatory diſpoſition, is yet more ſo*.

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* The complaints which the meaſles leave are chiefly pneumonic. The cough is the moſt troubleſome ſymptom, and to relieve the patient from it, not only bleeding and purging muſt be uſed, but expectorants ought alſo to be adminiſtered. The Lac Ammoniacum, formerly mentioned has often proved beneficial. On the ſuppoſition, that the cough and pneumonic affection remaining after the meaſles, are owing to a peculiar acrimony, ſome practitioners have recommended alteratives and demulcents: Experience, however, has found little advantage from their uſe. I once ſaw a body opened, that had died 32 days after the eruption: the internal ſurface of the bronchiæ was covered with ſmall furfuraceous ſcales, ſomewhat like thoſe that appear on the ſkin when the eruption goes off. Hence I have been induced to ſuppoſe, that expectorants are the beſt remedies in theſe caſes, and indeed, experience confirms the practice. Bleeding and purging are only to be occaſionally uſed, in order to prevent the inflammation. The beſt method of avoiding the ill conſequences that follow the diſeaſe, is a free uſe of demulcent drinks, during the eruption, and of expectorants immediately after it. The Decoctum hordei compoſitum, of the London pharmacopœia is peculiarly adapted to theſe caſes, but it is much improved by adding half an ounce of Orrice root, when it is nearly boiled enough; if the Orrice be added too ſoon, the efficacious part of it evaporates. The Lac Ammoniacum above mentioned, is a very proper expectorant, but if it ſhould prove too nauſeous, through uſe, and be loathed by the patient, recourſe may be had to the weak ſolution of the Tartar Emetic, ſo often mentioned in theſe notes.

DCL.

From our late experience of the benefit of cold air in the eruptive fever of the ſmall-pox, ſome phyſicians have been of opinion, that the practice might be transferred to the meaſles; but we have not yet had trials ſufficient to aſcertain this. There is no doubt that external heat may be very hurtful in the meaſles, as in moſt other inflammatory diſeaſes; and therefore the body ought to be kept in a moderate temperature during the whole courſe of the meaſles; but how far, at any period of the diſeaſe, cold air may be applied with ſafety, we are yet uncertain. Analogy, though ſo often the reſource of phyſicians, is, in general, fallacious; and further, though the analogy with the ſmall-pox lead to the application of cold air during the eruptive fever of the meaſles, the analogy with catarrh ſeems to be againſt the practice. After the eruption had appeared upon the ſkin, we have had many inſtances of cold air making it diſappear, and thereby producing much diſorder in the ſyſtem; and have alſo had frequent examples of ſuch diſorder being removed by reſtoring the heat of the body, and thereby again bringing forth the eruption*.

CHAP. IV.

OF THE SCARLET FEVER.

DCLI.

IT may be doubted if the ſcarlet fever be a diſeaſe ſpecifically different from the cynanche maligna above deſcribed. The latter is almoſt always attended with a ſcarlet eruption; and, in all the inſtances I have ſeen of what may be called the ſcarlet fever, the diſeaſe, in almoſt every perſon affected, has been attended with an ulcerous ſore throat.

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* Though the application of cold air be dangerous, yet ventilation is of conſiderable uſe in the meaſles, as is alſo a frequent change of linen, and cleanlineſs.

DCLII.

This view of the matter may create ſome doubt; but I am ſtill of opinion, that there is a ſcarlet fever which is a diſeaſe ſpecifically different from the cynanche maligna.

Doctor Sydenham has deſcribed a ſcarlet fever, which he had ſeen prevailing as an epidemic, with all the circumſtances of the fever and eruption, without its being accompanied with any affection of the throat; at leaſt he does not take notice of any ſuch affection, which ſuch an accurate obſerver could not fail to have done, if any ſuch ſymptom, as we have commonly ſeen making a principal part of the diſeaſe, had attended thoſe caſes which he had obſerved. Several other writers have deſcribed the ſcarlet fever in the ſame manner, and I know phyſicians who have ſeen the diſeaſe in that form; ſo that there can be no doubt of there being a ſcarlet fever not neceſſarily connected with an ulcerous ſore throat, and therefore a diſeaſe different from the cynanche maligna.

DCLIII.

But, further, although in all the inſtances of ſcarlet fever which I have ſeen (and in the courſe of forty years I have ſeen it ſix or ſeven times prevailing as an epidemic in Scotland,) the diſeaſe, in almoſt all the perſons affected, was attended with an ulcerous ſore throat, or was what Sauvages names the Scarlatina Anginoſa: and although, in ſome inſtances, the ulcers of the throat were of a putrid and gangrenous kind, and at the ſame time the diſeaſe in all its ſymptoms reſembled very exactly the cynanche maligna; yet, I am ſtill perſuaded, that not only the ſcarlatina of Sydenham,

denham, but that even the ſcarlatina anginoſa of Sauvages, is a different diſeaſe from the cynanche maligna; and I have formed this opinion from the following conſiderations.

DCLIV.

1*ſt*, There is a ſcarlet fever entirely free from any affection of the throat, which ſometimes prevails as an epidemic; and therefore there is a ſpecific contagion producing a ſcarlet eruption without any determination to the throat.

2*dly*, The ſcarlatina, which, from its matter being generally determined to the throat, may be properly termed Anginoſa, has, in many caſes of the ſame epidemic, been without any affection of the throat; and therefore the contagion may be ſuppoſed to be more eſpecially determined to produce the eruption only.

3*dly*, Though in all the epidemics that I could allege to be thoſe of the ſcarlatina anginoſa, there have been ſome caſes which, in the nature of the ulcers, and in other circumſtances, exactly reſembled the caſes of the cynanche maligna; yet I have as conſtantly remarked, that theſe caſes have not been above one or two in a hundred, while the reſt have all of them been with ulcers of a benign kind, and with circumſtances hereafter to be deſcribed, ſomewhat different from thoſe of the cynanche maligna.

4*thly*, On the other hand, as I have two or three times ſeen the cynanche maligna epidemically prevailing; ſo, among the perſons affected, I have ſeen inſtances of caſes as mild as thoſe of the ſcarlatina anginoſa uſually are: but here the proportion was reverſed; and theſe mild caſes were not one fifth of the whole, while the reſt were of the putrid and malignant kind.

Laſtly, It applies to the ſame purpoſe to obſerve, that, of the cynanche maligna, moſt of the inſtances terminate fatally; while, on the other hand, that is the event of very few of the caſes of the ſcarlatina anginoſa.

DCLV.

From theſe conſiderations, though it may appear that there is ſome affinity between the cynanche maligna and ſcarlatina anginoſa, it will ſtill remain probable that the two diſeaſes are ſpecifically different. I have been at ſome pains to eſtabliſh this opinion: for, from all my experience, I find, that thoſe two diſeaſes require a different treatment; and I therefore now proceed to mention more particularly the circumſtances of the ſcarlatina anginoſa.

DCLVI.

This diſeaſe commonly appears about the beginning of winter, and continues throughout that ſeaſon. It comes on with ſome cold ſhivering, and other ſymptoms of the fever which uſually introduces the other exanthemata. But here there is no cough, nor the other catarrhal ſymptoms which attend the meaſles; nor is there that anxiety and vomiting which commonly introduce the confluent ſmall-pox, and which more certainly introduce the Cynanche Maligna.

Early in the diſeaſe, ſome uneaſineſs is felt in the throat; and frequently the deglutition is difficult, generally more ſo than in the Cynanche Maligna. Upon looking into the fauces, a redneſs and ſwelling appear in colour and bulk approaching to the ſtate of theſe ſymptoms in the Cynanche Tonſillaris; but, in the Scarlatina, there is always more or leſs of ſloughs, which ſeldom appear in the Cynanche Tonſillaris; and the ſloughs are commonly whiter than thoſe in the Cynanche maligna.

While theſe appearances are diſcovered in the fauces, upon the third or fourth day a ſcarlet eruption appears on the ſkin in the ſame form as deſcribed in CCCXIV. This eruption is commonly more conſiderable and univerſal than in the Cynanche; but it ſeldom produces a remiſſion of the fever. The eruption for the moſt part remains till the third or fourth day after its firſt appearance; but then goes off, ending in a mealy deſquamation. At this time the fever uſually ſubſides; and generally, at the ſame time, ſome degree of ſweat comes on.

The ſloughs on the fauces, which appeared early in the diſeaſe, continue for ſome days; but then falling off, diſcover the ſwelling abated, and an ulcer formed on one or both tonſils ſhowing a laudable pus; and ſoon after the fever has ſubſided, theſe ulcers heal up entirely. For the moſt part this diſeaſe has much leſs of coryza attending it than the Cynanche maligna; and, when there is a coryza attending the Scarlatina, the matter diſcharged is leſs acrid, and has not the fetid ſmell which it has in the other diſeaſe.

In the Scarlatina, when the eruption has entirely diſappeared, it frequently happens, that, in a few days after, the whole body is affected with an anaſarcous ſwelling; which, however, in a few days more, gradually ſubſides.

We have thus deſcribed the moſt common circumſtances of the Scarlatina Anginoſa; and have only to add, that during the time of its being epidemic, and eſpecially upon its firſt ſetting in, there are always a few caſes in which the circumſtances of the diſeaſe approach very nearly to thoſe of the Cynanche Maligna; and it is only in theſe inſtances that the diſeaſe is attended with any danger*.

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* Theſe caſes in which the diſeaſe is attended with danger, are however, very few, and are only the effect of art. Teazing the patient by doing too much; tormenting him with a cloſe confinement to his bed, well furniſhed with blankets; and adding fuel to the flame, by forcing him to ſwallow large quantities of cordials and alexipharmics, are the ſure methods of increaſing the diſeaſe: and the patient, diſtreſſed by the exceſſive officiouſneſs of his ſage doctor, is obliged to take refuge in the arms of death.

DCLVII.

With reſpect to the cure of this diſeaſe, when the ſymptoms of it are nearly the ſame with thoſe of the Cynanche Maligna, it requires exactly the ſame treatment as directed in CCCXVII.

DCLVIII.

When the ſcarlet fever appears, without any affection of the throat, the treatment of it is very ſimple, and is delivered by Dr. Sydenham. An antiphlogiſtic regimen * is commonly all that is requiſite; avoiding, on one hand, the application of cold air; and, on the other, any increaſe of external heat.

DCLIX.

In the ordinary ſtate of the Scarlatina Anginoſa, the ſame treatment is, in moſt caſes, ſufficient; but as here the fever is commonly more conſiderable, and there is likewiſe an affection of the throat, ſome remedies may be often neceſſary.

DCLX.

When there is a pretty high degree of fever, with a full pulſe, and a conſiderable ſwelling of the tonſils, bleeding is very proper, eſpecially in adults; and it has been frequently practiſed with advantage: but as, even in the Cynanche Tonſillaris, much bleeding is ſeldom neceſſary; (CCCV.) ſo, in the Scarlatina, when the ſtate of the fever and the appearances of the fauces render the nature of the diſeaſe ambiguous, bleeding may be omitted; and, if not altogether avoided, it ſhould at leaſt not be large, and ought not to be repeated.

DCLXI.

Vomiting, and eſpecially nauſeating doſes of emetics †, notwithſtanding the inflamed ſtate of the fauces, have been found very uſeful in this diſeaſe. An open

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* The antiphlogiſtic regimen muſt not however be carried too far, leſt we induce a ſtate of debility that may prove hurtful.

† Theſe have been mentioned in former notes.

open belly is proper in every form of this diſeaſe; and when the nauſeating doſes of emetics operate a little downwards, they are more ſerviceable.

DCLXII.

In every form of the Scarlatina Anginoſa, through the whole courſe of it, detergent gargles* ſhould be employed, and more or leſs as the quantity of ſloughs and the viſcid mucus in the fauces may ſeem to require.

DCLXIII.

Even in the milder ſtates of the Scarlatina Anginoſa, it has been common with practitioners to exhibit the Peruvian bark through the whole courſe of the diſeaſe; but we are aſſured, by much experience, that in ſuch caſes it may be ſafely omitted, though in caſes any ways ambiguous it may not be prudent to neglect this remedy.

DCLXIV.

The anaſarcous ſwelling, which frequently follows the Scarlatina Anginoſa, ſeldom requires any remedy; and, at leaſt, the purgatives ſo much inculcated, and ſo commonly exhibited, ſoon take off the anaſarca.

CHAP. V.

OF THE PLAGUE.

SECT. I.

OF THE PHENOMENA OF THE PLAGUE.

DCLXV.

THE Plague is a diſeaſe which always ariſes from contagion; which affects many perſons about the

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* The detergent gargles were deſcribed in the note on ſection 317.

the ſame time ; proves fatal to great numbers. generally produces fever ; and, in moſt perſons, is attended with buboes or carbuncles.

DCLXVI.

Theſe are the circumſtances which, taken together, give the character of the diſeaſe ; but it is accompanied with many ſymptoms almoſt peculiar to itſelf, that, in different perſons, are greatly diverſified in number and degree, and ſhould be particularly ſtudied. I would wiſh to lay the foundation for this ; but think it unfit for a perſon who has never ſeen the diſeaſe to attempt its particular hiſtory. For this, therefore, I muſt refer to the authors who have written on the ſubject ; but allowing thoſe only to be conſulted, who have themſelves ſeen and treated the diſeaſe in all its different forms.

DCLXVII.

From the accounts of ſuch authors, it appears to me, that the circumſtances which particularly diſtinguiſh this diſeaſe, and eſpecially the more violent and dangerous ſtates of it, are

1ſt, The great loſs of ſtrength in the animal functions, which often appears early in the diſeaſe.

2dly, The ſtupor, giddineſs, and conſequent ſtaggering, which reſembles drunkenneſs, or the head-ach and various delirium ; which are all of them ſymptoms denoting a great diſorder in the functions of the brain.

3dly, The anxiety, palpitation, ſyncope, and eſpecially the weakneſs and irregularity of the pulſe, which denotes a conſiderable diſturbance in the action of the heart.

4thly, The nauſea and vomiting, particularly the vo-

Tincture of roſes is generally uſed, and in moſt caſes anſwers every intention : if, however, the ulceration is conſiderable, and the ſloughs do not eaſily caſt off, recourſe muſt be had to Dr. Fothergill's gargle, deſcribed in article 317.

vomiting of bile, which ſhows an accumulation of vitiated bile in the gall-bladder and biliary ducts, and from thence derived into the inteſtines and ſtomach; all of which ſymptoms I ſuppoſe to denote a conſiderable ſpaſm, and loſs of tone, in the extreme veſſels on the ſurface of the body.

5thly, The buboes or carbuncles, which denote an acrimony prevailing in the fluids. And,

Laſtly, The petechiæ, hemorrhagies, and colliquative diarrhœa, which denote a putreſcent tendency prevailing to a great degree in the maſs of blood.

DCLXVIII.

From the conſideration of all theſe ſymptoms, it appears, that the plague is eſpecially diſtinguiſhed by a ſpecific contagion, often ſuddenly producing the moſt conſiderable ſymptoms of debility in the nervous ſyſtem or moving powers, as well as of a general putreſcency in the fluids; and it is from the conſideration of theſe circumſtances as the proximate cauſe, that I think both the prevention and cure of the plague muſt be directed.

DCLXIX.

If this diſeaſe ſhould reviſit the nothern parts of Europe, it is probable, that, at the time, there will be no phyſicians then alive, who, at the firſt appearance of the diſeaſe, can be guided by his former experience, but muſt be inſtructed by his ſtudy of the writers on this ſubject, and by analogy. It is, therefore, I hope, allowable for me, upon the ſame grounds, to offer here my opinion with reſpect to both the prevention and cure of this diſeaſe.

This paragraph was written before I had any notice of the plague of Moſcow anno 1771; but I think it will ſtill apply to the caſe of Great Britain and of many other northern ſtates.

SECT. II.

OF THE PREVENTION OF THE PLAGUE.

DCLXX.

With reſpect to the prevention: As we are firmly perſuaded that the diſeaſe never ariſes in the northern parts of Europe, but in conſequence of its being imported from ſome other country; ſo the firſt meaſure neceſſary, is the magiſtrate's taking care to prevent the importation: and this may generally be done by a due attention to bills of health, and to the performance of quarantines.

DCLXXI.

With reſpect to the latter, we are perſuaded, that the quarantine of perſons may ſafely be much leſs than forty days; and, if this were allowed, the execution of the quarantine would be more exact and certain, as the temptation to break it would be in a great meaſure removed.

DCLXXII.

With reſpect to the quarantine of goods, it cannot be perfect, unleſs the ſuſpected goods be unpacked and duly ventilated, as well as the other means employed for correcting the infection they may carry; and, if all this were properly done, it is probable that the time commonly preſcribed for the quarantine of goods might alſo be ſhortened.

DCLXXIII.

A ſecond meaſure, in the way of prevention, becomes requiſite, when an infection has reached and prevailed in any place, to prevent that infection from ſpreading into other places. This can be done only by preventing the inhabitants, or the goods of any infected place, from going out of it, till they have undergone a proper quarantine.

DCLXXIV.

The third meaſure for prevention, to be employed with great care, is to hinder the infection from ſpreading among the inhabitants of the place in which it has ariſen. The meaſures neceſſary for this, are to be directed by the doctrine laid down in lxxxii. and from that doctrine we infer, that all perſons who can avoid any near communication with infected perſons, or goods, may eſcape the infection.

DCLXXV.

For avoiding ſuch communication, a great deal may be done by the magiſtrate: 1. By allowing as many of the inhabitants as are free from the infection, and not neceſſary to the ſervice of the place, to go out of it. 2. By prohibiting all aſſemblies, or unneceſſary intercourſe of the people. 3. By taking care that neceſſary communications be formed without contact. 4. By making ſuch arrangements and proviſions as may render it eaſy for the families remaining, to ſhut themſelves up in their own houſes. 5. By allowing perſons to quit houſes in which an infection appears, upon condition that they go into lazarettoes. 6. By ventilating and purifying, or deſtroying at the public expence, all affected goods. Laſtly, by avoiding hoſpitals, and providing ſeparate apartments for infected perſons.

The execution of theſe meaſures will require great authority, and much vigilance and attention, on the part of the magiſtrate; but it is not our province to enter into any detail on this ſubject of the public police.

DCLXXVI.

The fourth and laſt part of the buſineſs of prevention, reſpects the conduct of perſons neceſſarily remaining in infected places, eſpecially of thoſe obliged to have ſome communication with perſons infected.

DCLXXVII.

Of thoſe obliged to remain in infected places, but not obliged to have any near communication with the ſick, they may be preſerved from the contagion by avoiding all near communication with other perſons, or their goods; and it is probable, that a ſmall diſtance will anſwer the purpoſe, if, at the ſame time, there be no ſtream of air to carry the effluvia of perſons, or goods, to ſome diſtance.

DCLXXVIII.

For thoſe who are neceſſarily obliged to have a near communication with the ſick, it is proper to let them know, that ſome of the moſt powerful contagions do not operate, but when the bodies of men expoſed to the contagion are in certain circumſtances which render them more liable to be affected by it; and therefore, by avoiding theſe circumſtances and cauſes, they may often eſcape infection.

DCLXXIX.

The bodies of men are eſpecially liable to be affected by contagions, when they are any ways conſiderably weakened by want of food, and even by a ſcanty diet, or one of little nouriſhment; by intemperance in drinking, which, when the ſtupor of intoxication is over, leaves the body in a weakened ſtate; by exceſs in venery; by great fatigue; or by any conſiderable evacuation.

DCLXXX.

The cauſes which, concurring with contagion, render it more certainly active, are cold, fear, and full living.

The ſeveral means, therefore, of avoiding or guarding againſt the action of cold (xciv, to xcvi.) are to be carefully ſtudied.

DCLXXXI.

Againſt fear the mind is to be fortified as well as poſſible, by inſpiring a favourable idea of the power of preſervative means; by deſtroying the opinion of the incurable nature of the diſeaſe; by occupying mens minds with buſineſs or labour; and by avoiding all objects of fear, as funerals, paſſing bells, and any notice of the death of particular friends.

DCLXXXII.

A full diet of animal food increaſes the irritability of the body, and favours the operation of contagion; and indigeſtion, whether from the quantity or quality of food, has the ſame effect.

DCLXXXIII.

Beſides giving attention to obviate the ſeveral circumſtances (DCX, DCLXXIX, to DCLXXXII.) which favour the operation of contagion, it is probable that ſome means may be employed for ſtrengthening the bodies of men, and thereby enabling them to reſiſt contagion.

For this purpoſe, it is probable, that the moderate uſe of wine, or of ſpiritous liquors, may have a good effect.

It is probable alſo, that exerciſe, when it can be employed, if ſo moderate as to be neither heating nor fatiguing to the body, may be employed with advantage.

Perſons who have tried cold bathing, and commonly feel invigorating effects from it, if they are any ways ſecure againſt having already received infection, may poſſibly be enabled to reſiſt it by the uſe of the cold bath.

It is probable, that ſome medicines alſo may be uſeful in enabling men to reſiſt infection: but amongſt theſe I can hardly admit the numerous alexipharmics formerly propoſed; or, at leaſt, very few of them, and thoſe only of tonic power. Amongſt theſe laſt we reckon the Peruvian bark; and it is perhaps the moſt effectual. If any thing is to be expected from antiſeptics, I think camphire, whether internally or externally employed, is one of the moſt promiſing.

Every perſon is to be indulged in the uſe of any means of preſervation of which he has conceived a good opinion, whether it be a charm or a medicine, if the latter be not directly hurtful.

Whether iſſues be uſeful in preſerving from, or in moderating the effects of contagion, I cannot determine from the obſervations I have yet read.

DCLXXXIV.

As neither the atmoſphere in general, nor any conſiderable portion of it, is tainted or impregnated with the matter of contagions; ſo the lighting of fires over a great part of the infected city, or other general fumigations in the open air, are of no uſe for preventing the diſeaſe, and may perhaps be hurtful.

DCLXXXV.

It would probably contribute much to check the progreſs of infection, if the poor were enjoined to make a frequent change of clothing, and were ſuitably provided for that purpoſe; and if they were, at the ſame time, induced to make a frequent ventilation of their houſes and furniture.

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SECT. III.

OF THE CURE OF THE PLAGUE.

DCLXXXVI.

In the cure of the plague, the indications are the ſame as thoſe of fever in general, (cxxvi.) but here they are not all equally neceſſary and important.

DCLXXXVII.

The meaſures for moderating the violence of re-action, which operate by diminiſhing the action of the heart and arteries (CXXVIII.) have ſeldom any place here, excepting ſo far as the antiphlogiſtio regimen is proper. Some phyſicians, indeed, have recommended bleeding; and there may occur caſes in which bleeding may be uſeful; but, for the moſt part, it is unneceſſary, and in many caſes it might be very hurtful.

Purging has alſo been recommended; and, in ſome degree, it may be uſeful in drawing off the bile, or other putreſcent matters frequently preſent in the inteſtines; but a large evacuation this way may certainly be hurtful.

DCLXXXVIII.

The moderating the violence of re-action, ſo far as it can be done by taking off the ſpaſm of the extreme veſſels, (CLI.) is a meaſure of the utmoſt neceſſity in the cure of the plague; and the whole of the means (CLII, to CC.) ſuited to this indication are extremely proper.

DCLXXXIX.

The giving an emetic at the very firſt approach of the diſeaſe, would probably be of great ſervice; and it is likely, that at ſome other periods of the diſeaſe emetics might be uſeful, both by evacuating bile abundant in the alimentary canal, and by taking off the ſpaſm of the extreme veſſels.

DCXC.

From ſome principles with reſpect to fever in general, and with reſpect to the plague in particular, I am of opinion, that, after the exhibition of the firſt vomit, the body ſhould be diſpoſed to ſweat; which ought to be raiſed to a moderate degree only, but continued for at leaſt twenty-four hours, or longer if the patient bear it eaſily.

DCXCI.

This ſweating ſhould be excited and conducted agreeably to the rules laid down in CLXVIII. It is to be promoted by the plentiful uſe of diluents, rendered more grateful by vegetable acids, or more powerful by being impregnated with ſome portion of neutral ſalts.

DCXCII.

To ſupport the patient under the continuance of the ſweat, a little weak broth, acidulated with juice of lemons, may be given frequently; and ſometimes a little wine, if the heat of the body be not conſiderable.

DCXCIII.

If ſudorific medicines are judged to be neceſſary, opiates are the moſt effectual and ſafe: but they ſhould not be combined with aromatics; and probably may be more effectual, if joined with a portion of emetics, and of neutral ſalts.

DCXCIV.

If, notwithſtanding the uſe of emetics and ſudorifics, the diſeaſe ſhould ſtill continue, the cure muſt depend upon the employment of means for obviating debility and putreſcency; and, for this purpoſe, the various remedies propoſed above (from CCI, to CCXXVII.) may all be adminiſtered, but eſpecially the tonics; and of theſe the chief are cold drink and the Peruvian bark.

DCXCV.

In the cure of the plague, ſome attention is due to the management of buboes and carbuncles: but we do not touch this, as it belongs to the province of ſurgery*.

C H A P.

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* The reader might poſſibly expect a detail of the medicines uſed in the plague, with their doſes and the manner of adminiſtering them; but I thought it better to refer to the authors who have either ſeen the diſeaſe, or who have expreſsly written on it. On conſulting different authors, it appears, that every particular epidemic requires a different treatment, in ſome part of the cure at leaſt. Should any young practitioner be unfortunate enough to have occaſion to exer-

CHAP. VI.

OF ERYSIPELAS, OR ST. ANTHONY's FIRE.

DCXCVI.

IN CCLXXIV, I mentioned the diſtinction which I propoſed to make between the diſeaſes to be named the Erythema and the Eryſipelas; and from thence it will appear, that Eryſipelas, as an Erythema following fever, may have its place here.

DCXCVII.

I ſuppoſe the eryſipelas to depend on a matter generated within the body, and which, analogous to the other caſes of exanthemata, is, in conſequence of fever, thrown out upon the ſurface of the body. I own it may be difficult to apply this to every particular caſe of eryſipelas: but I take the caſe in which it is generally ſuppoſed to apply, that of the eryſipelas of the face; which I ſhall therefore conſider here.

DCXCVIII.

The Eryſipelas of the face comes on with a cold ſhivering, and other ſymptoms of pyrexia. The hot ſtage of this is frequently attended with a confuſion of head, and ſome degree of delirium; and almoſt always with a drowſineſs, or perhaps coma. The pulſe is always frequent, and commonly full and hard.

DCXCIX.

When theſe ſymptoms have continued for one, two, or at moſt three days, there appears, on ſome part of the face, a redneſs, ſuch as that deſcribed in CCLXXV. as the appearance of Erythema. This redneſs, at firſt, is of no great extent; but gradually ſpreads from the part it firſt occupied to the other parts of the face,

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ciſe his art in the cure of the plague, he muſt chiefly be directed by the general indications of the cure of fevers.

face, commonly till it has affected the whole; and frequently from the face it ſpreads over the hairy ſcalp, or deſcends on ſome part of the neck. As the redneſs ſpreads, it commonly diſappears, or at leaſt decreaſes, in the parts it had before occupied. All the parts upon which the redneſs appears are, at the ſame time, affected with ſome ſwelling, which continues for ſome time after the redneſs has abated. The whole face becomes conſiderably turgid; and the eye-lids are often ſo much ſwelled as entirely to ſhut up the eyes.

DCC.

When the redneſs and ſwelling have proceeded for ſome time, there commonly ariſe, ſooner or later, bliſters of a larger or ſmaller ſize, on ſeveral parts of the face. Theſe contain a thin yellowiſh or almoſt colourleſs liquor, which ſooner or later runs out. The ſurface of the ſkin, in the bliſtered places, ſometimes becomes livid and blackiſh; but this livor ſeldom goes deeper than the ſurface, or diſcovers any degree of gangrene affecting the ſkin. On the parts of the face not affected with bliſters, the cuticle ſuffers, towards the end of the diſeaſe, a conſiderable deſquamation.

Sometimes the tumour of the eye-lids ends in a ſuppuration.

DCCI.

The inflammation coming upon the face does not produce any remiſſion of the fever which had before prevailed; and ſometimes the fever increaſes with the increaſing and ſpreading inflammation.

DCCII.

The inflammation uſually continues for eight or ten days; and for the ſame time, the fever and ſymptoms attending it alſo continue.

DCCIII.

In the progreſs of the inflammation the delirium and coma attending it ſometimes go on increaſing, and the patient dies apoplectic on the ſeventh, ninth, or eleventh day of the diſeaſe. In ſuch caſes it has been commonly ſuppoſed that the diſeaſe is tranſlated from the external to the internal parts. But I have not ſeen any inſtance in which it did not appear to me, that the affection of the brain was merely a communication of the external affection, as this continued increaſing at the ſame time with the internal.

DCCIV.

When the fatal event does not take place, the inflammation, after having affected a part, commonly the whole of the face, and perhaps the other external parts of the head, ceaſes. With the inflammation, the fever alſo ceaſes; and, without any evident criſis, the patient returns to his ordinary ſtate of health.

DCCV.

This diſeaſe is not commonly contagious; but as it may ariſe from an acrid matter externally applied, ſo it is poſſible that the diſeaſe may ſometimes be communicated from one perſon to another.

Perſons who have once laboured under this diſeaſe are liable to returns of it.

DCCVI.

The event of this diſeaſe may be foreſeen from the ſtate of the ſymptoms which denote more or leſs affection of the brain. If neither delirium nor coma come on, the diſeaſe is ſeldom attended with any danger; but when theſe ſymptoms appear early in the diſeaſe, and are in a conſiderable degree, the utmoſt danger is to be apprehended.

DCCVII.

As this diſeaſe often ariſes in the part, at the ſame time with the coming on of the pyrexia; as I have known it, with all its ſymptoms, ariſe from an acrimony applied to the part; as it is commonly attended with a full, and frequently a hard pulſe; as the blood drawn in this diſeaſe ſhows the ſame cruſt upon its ſurface, that appears in the phlegmaſiæ; and, laſtly, as the ſwelling of the eye-lids, in this diſeaſe, frequently ends in a ſuppuration; ſo, from theſe conſiderations, it ſeems doubtful if this diſeaſe be properly, in Noſology, ſeparated from the Phlegmaſiæ. At any rate, I take the diſeaſe I have deſcribed to be what phyſicians have named the Eryſipelas Phlegmonodes, and that it partakes a great deal of the nature of the Phlegmaſiæ.

DCCVIII.

Upon this concluſion, the Eryſipelas of the face is to be cured very much in the ſame manner as phlegmonic inflammations, by blood-letting, cooling purgatives, and by employing every part of the antiphlogiſtic regimen*; and our experience has confirmed the fitneſs of this method of cure.

DCCIX.

The evacuations of blood-letting and purging, are to be employed more or leſs according to the urgency of ſymptoms, particularly thoſe of the pyrexia, and of thoſe which mark an affection of the brain. As the pyrexia continues, and often increaſes with the inflammation of the face; ſo the evacuations mentioned may be employed at any time in the courſe of the diſeaſe.

DCCX.

In this, as in other diſeaſes of the head, it is proper to put the patient, as often as he can eaſily bear it, into ſomewhat of an erect poſture.

DCCXI.

As in this diſeaſe there is always an external affection, and as in many inſtances there is no other; ſo various external applications to the part affected have been propoſed ; but almoſt all of them are of doubtful effect. The narcotic*, refrigerant, and aſtringent† applications, are ſuſpected of diſpoſing to gangrene ; ſpiritous‡ applications ſeem to increaſe the inflammation ; and all oily or watery§ applications ſeem to occaſion its ſpreading. The application that ſeems moſt ſafe, and which is now moſt commonly employed, is that of a dry mealy powder frequently ſprinkled upon the inflamed parts**.

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* The antiphlogiſtic regimen, &c. have been deſcribed in former notes. See art. 129, et ſeq.

DCCXII.

An Eryſipelas Phlegmonodes frequently appears on the other parts of the body, beſide the face ; and ſuch other eryſipelatous inflammations frequently end in ſuppuration. Theſe caſes are ſeldom dangerous. At coming on, they are ſometimes attended with drowſineſs, and even with ſome delirium ; but this rarely happens ; and theſe ſymptoms do not continue after the inflammation is formed. I have never ſeen an inſtance of the tranſlation of this inflammation from the limbs to an internal part ; and though theſe inflammations of the limbs be attended with pyrexia, they ſeldom

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* The leaves of ſolanum, of hemlock, of henbane, and other ſimilar plants applied as fomentations.

† Solutions of Saccharum Saturni, or Vitriolum album, applied cold.

‡ Eſpecially if they are ſuch as are compounded with aromatics or volatile ſalts, as camphorated ſpirit of wine, Hungary-water, volatile liniment, &c.

§ The reaſon is evident, becauſe they confine the acrimonious liquor diſcharged from the part affected.

** Wheat-flour is apt to run into hard lumps by the thin acrimonious liquor which always exhales from parts affected with eryſipelas. Oatmeal not being ſo liable to this inconvenience is therefore preferable : it ought to be wiped off, and a freſh quantity applied twice or thrice a day.

Many practitioners recommend the application of cabbage leaves to eryſipelatous ſwellings, and their efficacy has been frequently approved. They ought to be removed as ſoon as they grow warm or uneaſy, and freſh cold ones applied.

ſeldom require the ſame evacuations as the eryſipelas of the face. At firſt they are to be treated by dry mealy applications only; and all humid applications, as fomentations, or poultices, are not to be applied, till, by the continuance of the diſeaſe, by the increaſe of ſwelling, or by a throbbing felt in the part, it appears that the diſeaſe is proceeding to ſuppuration.

DCCXIII.

We have hitherto conſidered eryſipelas as in a great meaſure of a phlegmonic nature; and agreeably to that opinion, we have propoſed our method of cure. But it is probable, that an eryſipelas is ſometimes attended with, or is a ſymptom of, a putrid fever; and, in ſuch caſes, the evacuations propoſed above may be improper, and the uſe of the Peruvian bark may be neceſſary; but I cannot be explicit upon this ſubject, as ſuch putrid caſes have not come under my obſervation.

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CHAP. VII.

OF THE MILIARY FEVER.

DCCXIV.

THIS diſeaſe is ſaid to have been unknown to the ancients, and that it appeared, for the firſt time, in Saxony, about the middle of the laſt century*. It is ſaid to have ſpread from thence into all the other parts of Europe*, and, ſince the period mentioned, to have appeared in many countries in which it had never appeared before.

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* Hoffman, Welſch, and ſeveral other writers, fix the firſt appearance of this diſeaſe at Leipſic, in the year 1551, and 1652. This opinion, however, is falſe, for deſcriptions of miliary eruptions are to be found in the writings of the ancients, and among them, we find Riverius deſcribing it in France, juſt after the appearance of the comet in the year 1618; to which phenomenon, that author aſcribes the fatal epidemic, as well as the bloody wars that were at that time making horrid devaſtations in Europe.

DCCXV.

From the time of its having been firſt particularly obſerved, it has been deſcribed and treated of by many different writers; and by all of them, till very lately, has been conſidered as a peculiar idiopathic diſeaſe.

It is ſaid to have been conſtantly attended with peculiar ſymptoms. It comes on with a cold ſtage, which is often conſiderable. The hot ſtage, which ſucceeds, is attended with great anxiety, and frequent ſighing. The heat of the body becomes great, and ſoon produces profuſe ſweating; preceded, however, by a ſenſe of pricking, as of pin-points, in the ſkin; and the ſweat is of a peculiar rank and diſagreeable odour. The eruption appears ſooner or later in different perſons, but at no determined period of the diſeaſe. It

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* We meet with ſeveral accounts of the appearance of the miliary eruption in different parts of Europe ſoon after the middle of the laſt century, not only by medical writers, but by general hiſtorians; among the latter of whom we may mention Robert Sibbald, who takes notice of it in his Scotia illuſtrata, publiſhed at Edinburgh in the year 1684. (Sibbald, however, was a phyſician.) To enumerate the medical writers who have deſcribed the diſeaſe in the different parts of Europe, would take more room than the ſhort compaſs of theſe notes admits, the chief of them are Welſch, Hoffman, Langius, Reyger, Bonetus, Grindwald, Sydenham, Romazini, Fuchſius, &c. &c. The authors above mentioned, and ſeveral others, about the end of the laſt and beginning of this century, entertained various opinions concerning the nature of the miliary eruption, ſome of them ſuppoſing it to be a critical termination of a peculiar fever, and others on the contrary ſtrenuouſly inſiſting that it was only accidental or ſymptomatic, and never critical or ſalutary. The controverſy, which was carried on with ſome warmth, is now terminated, as will appear by what follows; but the inquiſitive young phyſician will find both entertainment and inſtruction in peruſing it. A very good abſtract occurs in De Haen's treatiſe on the diviſion of fevers.

ſeldom or never appears on the face ; but diſcovers itſelf firſt upon the neck and breaſt, and from thence often ſpreads over the whole body.

DCCXVI.

The eruption named Miliary is ſaid to be of two kinds, the one named the Red, the other the White Miliary. The former, which in Engliſh is ſtrictly named a Raſh, is commonly allowed to be a ſymptomatic affection ; and as the latter is the only one that has any pretenſions to be conſidered as an idiopathic diſeaſe, it is this alone that I ſhall more particularly deſcribe and treat of in the preſent chapter.

DCCXVII.

What then is called the White Miliary eruption, appears at firſt like the red, in very ſmall red pimples, for the moſt part diſtinct, but ſometimes cluſtered together. Their ſlight prominence is diſtinguiſhed better by the finger than by the eye. Soon after the appearance of this eruption, and at leaſt on the ſecond day, a ſmall veſicle appears upon the top of each pimple. At firſt the veſicle is whey-coloured ; but ſoon becomes white, and ſtands out like a little globule on the top of the pimple. In two or three days, theſe globules break, or are rubbed off ; and are ſucceeded by ſmall cruſts, which ſoon after fall off in ſmall ſcales. While one ſet of pimples takes this courſe, another ſet ſucceeds ; ſo that the diſeaſe often continues upon the ſkin for many days together. Sometimes when one crop of this eruption has appeared, another, after ſome interval, is produced. And it has been further obſerved, that in ſome perſons there is ſuch a tendency to this diſeaſe, that they have been affected with it ſeveral times in the courſe of their lives.

DCCXVIII.

This diſeaſe is ſaid to affect both ſexes, and perſons of all ages and conſtitutions ; but it has been obſerved, ed, at all times, to affect eſpecially, and moſt frequently, lying-in women.

DCCXIX.

This diſeaſe is often accompanied with violent ſymptoms, and has frequently proved fatal. The ſymptoms attending it are, however, very various. They are, in one or other inſtances, all the ſeveral ſymptoms attending febrile diſeaſes; but I cannot find that any ſymptom or concourſe of ſymptoms are ſteadily the ſame in different perſons, ſo as to furniſh any ſpecific character to the diſeaſe. When the diſeaſe is violent, the moſt common ſymptoms are phrenitic, comatoſe, and convulſive affections, which are alſo ſymptoms of all fevers treated by a very warm regimen.

DCCXX.

While there is ſuch a variety of ſymptoms appearing in this diſeaſe, it is not to be expected that any one particular method of cure can be propoſed: and accordingly we find, in different writers, different methods and remedies preſcribed; frequent diſputes about the moſt proper; and thoſe received and practiſed by ſome, oppoſed and rejected by others.

DCCXXI.

I have thus given an account of what I have found delivered by authors who have conſidered the white miliary fever as an idiopathic diſeaſe: but, now, after having often obſerved the diſeaſe, I muſt ſay that I doubt much if it ever be ſuch an idiopathic as has been ſuppoſed, and I ſuſpect that there is much fallacy in what has been written on the ſubject.

DCCXXII.

It ſeems to me very improbable, that this ſhould have been really a new diſeaſe when it was firſt conſidered as ſuch. There appear to me very clear traces of it in authors who wrote long before that period; and, though there were not, we know that the deſcriptions of the ancients were inaccurate and imperfect, particularly with reſpect to cutaneous affections; whilſt we know alſo very well, that thoſe affections which uſually appeared as ſymptomatic only, were commonly neglected, or confounded together under a general appellation.

DCCXXIII.

The antecedent ſymptoms of anxiety, ſighing, and pricking of the ſkin, which have been ſpoken of as peculiar to this diſeaſe, are, however, common to many others; and, perhaps to all thoſe in which ſweatings are forced out by a warm regimen.

Of the ſymptoms ſaid to be concomitant of this eruption, there are none which can be conſtant and peculiar but that of ſweating. This, indeed, always precedes and accompanies the eruption; and, while the miliary eruption attends many different diſeaſes, it never, however, appears in any of theſe, but after ſweating; and, in perſons labouring under theſe diſeaſes, it does not appear, if ſweating be avoided. It is therefore probable, that the eruption is the effect of ſweating; and that it is the produce of a matter, not before prevailing in the maſs of blood, but generated, under particular circumſtances, in the ſkin itſelf. That it depends upon particular circumſtances of the ſkin, appears further from hence, that the eruption ſeldom or never appears upon the face, although it affects the whole of the body beſides; that it comes upon thoſe places eſpecially which are more cloſely covered; and that it can be brought out upon particular parts by external applications.

DCCXXIV.

It is to be obſerved, that this eruptive diſeaſe differs from the other exanthemata in many circumſtances; in its not being contagious, and therefore never epidemic; that the eruption appears at no determined period of the diſeaſe; that the eruption has no determined duration; that ſucceſſive eruptions frequently appear in the courſe of the ſame fever; and that ſuch eruptions frequently recur in the courſe of the ſame perſon's life.

All theſe circumſtances render it extremely probable, that, in the miliary fever, the morbific matter is not a ſubſiſting contagion communicated to the blood, and thence, in conſequence of fever and aſſimilation, thrown out upon the ſurface of the body; but a matter occaſionally produced in the ſkin itſelf, by ſweating.

DCCXXV.

This concluſion is further rendered probable from hence, that, while the miliary eruption has no peculiar ſymptoms, or concourſe of ſymptoms, belonging to it; yet upon occaſion, it accompanies almoſt all febrile diſeaſes, whether inflammatory or putrid, if theſe happen to be attended with ſweating; and from thence it may be preſumed, that the miliary eruption is a ſymptomatic affection only, produced in the manner we have ſaid.

DCCXXVI.

But, as this ſymptomatic affection does not always accompany every inſtance of ſweating, it may be proper to inquire what are the circumſtances which eſpecially determine this eruption to appear? To this, however, I can give no full and proper anſwer. I cannot ſay that there is any one circumſtance which in all caſes gives occaſion to the eruption; nor can I ſay what different cauſes may, in different caſes, give occaſion to it. There is only one obſervation I can offer to the purpoſe of this inquiry; and it is, that, of the perſons, ſweating under febrile diſeaſes, thoſe are eſpecially liable to miliary eruption, who have been previouſly weakened by large evacuations, particularly of blood. This will explain why it happens to lying-in women more frequently than to any other perſons; and to confirm this explanation, I have remarked, ed, that the eruption happened to women not in childbed, but who had been much ſubjected to a frequent and copious menſtruation; and to an almoſt conſtant fluor albus. I have alſo had occaſion to obſerve it happen to men in fevers, after wounds from which they had ſuffered a great loſs of blood.

Further, that this eruption is produced by a certain ſtate of debility, will appear probable, from its often occurring in fevers of the putrid kind, which are always attended with great debility. It is true, that it alſo ſometimes attends inflammatory diſeaſes, when it cannot be accounted for in the ſame manner; but I believe it will be found to attend eſpecially thoſe inflammatory diſeaſes in which the ſweats have been long protracted or frequently repeated, and which have thereby produced a debility, and perhaps a debilitating putrid diatheſis.

DCCXXVII.

It appears ſo clearly to me that this eruption is always a ſymptomatic* and factitious affection, that I am perſuaded it may be in moſt caſes prevented merely by avoiding ſweats. Spontaneous ſweatings, in the beginning of diſeaſes, are very rarely critical; all ſweatings, not evidently critical, ſhould be prevented; and the promoting them, by increaſing external heat, is commonly very pernicious. Even critical ſweats ſhould hardly be encouraged by ſuch means. If, therefore, ſpontaneous ſweats ariſe, they are to be checked by the coolneſs of the chamber; by the lightneſs and coolneſs of the bed-clothes; by the perſon's laying out their hands and arms, and by their taking cold drink: and, by theſe precautions, I think I have frequently prevented miliary eruptions, which were otherwiſe likely to have appeared, particularly in lying-in women.

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* As this diſeaſe is always ſymptomatic and never idiopathic, the method of curing muſt neceſſarily vary in different caſes; the chief attention of the phyſician muſt therefore be turned to the primary diſeaſe, and to the means of preventing this ſymptom from appearing in thoſe diſeaſes which it accompanies.

The author judiciouſly begins his method of cure by giving directions for preventing the eruption, which he properly ſuppoſes to be entirely factitious, and to depend on the application of too much heat. With a proper attention to the directions given in the text, we may in general prevent the eruption. If, however, the eruption is preſent before the phyſician is called, thoſe remedies muſt be uſed for it's removal, that are enumerated in the ſubſequent articles.

DCCXXVIII.

But it may happen, when theſe precautions have been neglected, or from other circumſtances, that a miliary eruption does actually appear; and the queſtion will then be put, how the caſe is to be treated? It is a queſtion of conſequence, becauſe I believe that the matter here generated is often of a virulent kind; it is frequently the offspring of putreſcency; and, when treated by increaſing the external heat of the body, it ſeems to acquire a virulence which produces thoſe ſymptoms mentioned in DCCXIX. and proves certainly fatal.

It has been an unhappy opinion with moſt phyſicians, that eruptive diſeaſes were ready to be hurt by cold; and that is was therefore neceſſary to cover up the body very cloſely, ſo as thereby to increaſe the external heat. We now know that this is a miſtaken opinion; that increaſing the external heat of the body is very generally miſchievous; and that ſeveral eruptions not only admit, but require the application of cold air. We are now* perſuaded, that the practice

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* The preſent rational practice has entirely altered the regimen in fevers; and inſtead of macerating the patient in a hot bed, and obliging him to breathe the corrupt air of a confined chamber, we now cover him with light bed clothes, and ventilate his room. It may, however, be neceſſary to guard the young phyſician againſt the exceſs of this practice. The precept, Omne nimium nocet,

which formerly prevailed, in the caſe of miliary eruptions, of covering up the body cloſe, and both by external means, and internal remedies, encouraging the ſweatings which acompany this eruption, was highly pernicious, and commonly fatal. I am therefore of opinion, even when a miliary eruption has appeared, that in all caſes where the ſweating is not manifeſtly critical, we ſhould employ all the ſeveral means of ſtopping it that are mentioned above; and I have ſometimes had occaſion to obſerve, that even the admiſſion of cool air was ſafe and uſeful.

DCCXXIX.

This is, in general, the treatment of miliary eruptions: but, at the ſame time, the remedies ſuited to the primary diſeaſe are to be employed; and therefore, when the eruption happens to accompany inflammatory affections, and when the fulneſs and hardneſs of the pulſe or other ſymptoms ſhow an inflammatory ſtate preſent, the caſe is to be treated by blood-letting, purging, and other antiphlogiſtic remedies.

Upon the other hand, when the miliary eruption attends diſeaſes in which debility and putreſcency prevail, it will be proper to avoid all evacuations, and employ tonic and antiſeptic remedies, particularly the Peruvian bark, cold drink, and cold air.

I ſhall conclude this ſubject with mentioning, that the venerable octogenarian practitioner, de Fiſcher, when treating of this ſubject, in laying down the indi-

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ſhould always be attended to. If the patient feels any diſagreeable effects, or if he ſhould ſuffer rigors, or tremble from the admiſſion of cold air, it is certainly prejudicial, and its admiſſion ought to be regulated. It may not be improper to mention another caution, viz. that the young practitioner muſt not, by the means here recommended, check ſweats that are really critical. To determine what ſweats are, and what are not critical, is perhaps, in ſome caſes, attended with conſiderable difficulty. In general, however, critical ſweats may be known by their happening on the critical days before mentioned in articles 107, et ſeq. and by their always being immediately followed by an abatement of all, or at leaſt the greateſt part of the ſymptoms.

cations of cure, has given this as one of them: "Excretionis periphericæ non primariam habere rationem."

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CHAP. VIII.

OF THE REMAINING EXANTHEMATA.

URTICARIA, PEMPHIGUS, AND APHTHA.

DCCXXX.

THE Nettle Raſh is a name applied to two different diſeaſes. The one is the chronic eruption deſcribed by Dr. Heberden in the Medical Tranſactions, Vol. I. art. xvii. which, as not being a febrile diſorder, does not belong to this place. The other is the Urticaria of our Synopſis, which, as taken into every ſyſtem of Noſology as one of the Exanthemata Febrilia, is properly to be treated of here.

DCCXXXI.

I have never obſerved this diſeaſe as contagious and epidemic; and the few ſporadic caſes of it which have occurred to me, have ſeldom taken the regular courſe deſcribed by authors. At the ſame time, as the accounts of different authors are not very uniform, and hardly conſiſtent, I cannot enter further into the conſideration of this ſubject: and I hope it is not very neceſſary, as on all hands it is agreed to be a mild diſeaſe, and ſuch as ſeldom requires the uſe of remedies. It is generallly ſufficient to obſerve an antiphlogiſtic regimen, and to keep the patient in a temperature that is neither hot nor cold.

DCCXXXII.

The Pemphigus, or Viſicular fever, is a rare and uncommon diſeaſe, and very few inſtances of it are recorded in the writings of phyſicians. As I have never had occaſion to ſee it, it would be improper for me to treat of it*; and I do not chooſe to repeat after others, while the diſeaſe has yet been little obſerved, and its character does not ſeem to be exactly aſcertained. Vid. Acta Helvetica, vol. ii. p. 260. Synopſ. Noſolog. vol. ii. p. 149.

DCCXXXIII.

The Aphtha, or Thruſh, is a diſeaſe better known; and, as it commonly appears in infants, it is ſo well underſtood, as not to need our treating of it here. As an idiopathic diſeaſe, affecting adults, I have not ſeen it in this country: but it ſeems to be more frequent in Holland; and, therefore, for the ſtudy of it, I refer to Dr. Boerhaave, and his commentator Van Swieten, whoſe works are in every body's hands§.

DCCXXXIV.

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[*] It appears from the following paſſage in the author's Synopſis, that he had afterwards ſeen it: "Collega noſter eximus Franciſcus "Home, mihi hominem leviter febricitantem oſtendit, cui, primum "in brachiis, et ſucceſſive demum in toto corpore, veſiculæ magnitu-"dine avellanæ obortæ ſunt, et poſt duas treſve dies effuſo humoris "ſeron pauxillo, collapſæ ſunt. Haec febris autem nullam indo-"lem vel typum peculiarem monſtrabat, et citodiſparuit nequaquam "contagioſa.

[§] Boerhaave only ſaw aphthae twice without, and preceding fever, and Van Swieten only one; but Ketelaer ſays he has frequently ſeen them. They ſometimes accompany inflammations of the viſcera, and other inflammatory fevers, and are often difficult to remove. They are to be treated in the ſame manner as the ulcerations in the Cynanche maligna, by gargles in the deterſive kind, until the aphthous cruſt ſeparates and falls off; but, when that cruſt has fallen off, the painfulneſs of the nakedly expoſed ſenſible parts requires emollient applications; of which kind a decoction of Rad. Alth. or an infuſion of lintſeed, are proper gargles alone: if honey be added, the patient complains of its making the part ſmart. The patient's diet ought to be the mildeſt kind, that it may be ſwallowed without cauſing much pain. The aphthous cruſt frequently appears at the anus, which ſymptom generally leads to conclude, (as is really the caſe,) that aphthae cover the whole inteſtinal canal. Hence conſiderable danger ariſes. The abſorbents are covered, and refuſe ad-

DCCXXXIV.

The Petechia has been, by all our Noſologiſts, enumerated amongſt the exanthemata; but as, according to the opinion of moſt phyſicians, it is very juſtly held to be always a ſymptomatic affection only, I cannot give it a place here.

BOOK IV.

OF HEMORRHAGHIES.

CHAP. I.

OF HEMORRHAGY IN GENERAL.

DCCXXXV.

IN eſtabliſhing a claſs or order of diſeaſes under the title of *Hemorrhagies*, Noſologiſts have employed the ſingle circumſtance of an effuſion of red blood, as the character of ſuch a claſs or order. By this means they have aſſociated diſeaſes which in their nature are very different; but, in every methodical diſtribution, ſuch arbitrary and unnatural aſſociations ſhould be avoided as much as poſſible. Further, by that management Noſologiſts have ſuppreſſed or loſt ſight

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mittance to all nouriſhment; hence an increaſed debility, with all its evil conſequences. In theſe caſes, a nutritive, liquid, and deterſive diet, muſt be uſed. For this purpoſe a decoction of bread, with wine and honey, is the propereſt drink. Such a decoction is extremely nutritive, and alſo averſe to putrefaction, and therefore well adapted to the exigency of the caſe.

ſight of an eſtabliſhed and well-founded diſtinction of hemorrhagies into Active and Paſſive.

DCCXXXVI.

It is my deſign to reſtore this diſtinction; and I ſhall therefore here, under the title of Hemorrhagies, comprehend thoſe only which have been commonly called Active, that is, thoſe attended with ſome degree of pyrexia; which ſeem always to depend upon an increaſed impetus of the blood in the veſſels pouring it out, and which chiefly ariſe from an internal cauſe. In this I follow Dr. Hoffman, who joins the active hemorrhagies with the febrile diſeaſes; and have accordingly eſtabliſhed theſe hemorrhagies as an order in the claſs of Pyrexiæ From this order I exclude all thoſe effuſions of red blood that are owing entirely to external violence; and all thoſe which, though ariſing from internal cauſes, are, however, not attended with pyrexia, and which ſeem to be owing to a putrid fluidity of the blood, to the weakneſs or to the eroſion of the veſſels, rather than to any increaſed impetus of the blood in them.

DCCXXXVII.

Before proceeding to treat of thoſe proper hemorrhagies wich form an order in our Noſology, I ſhall treat of active hemorrhagy in general; and indeed the ſeveral genera and ſpecies, to be treated of particularly afterwards, have ſo many circumſtances in common with one another, that the general conſideration to be now offered will prove both proper and uſeful.

SECT. I.

OF THE PHENOMENA OF HEMORRHAGY.

DCCXXXVIII.

THE phenomena of hemorrhagy are generally the following.

Hemorrhagies happen eſpecially in plethoric habits, and to perſons of a ſanguine temperament. They appear moſt commonly in the ſpring, or in the beginning of ſummer.

For ſome time, longer or ſhorter in different caſes, before the blood flows, there are ſome ſymptoms of fulneſs and tenſion about the parts from whence the blood is to iſſue. In ſuch parts as fall under our view, there are ſome redneſs, ſwelling, and ſenſe of heat or of itching; and in the internal parts from which blood is to flow, there is a ſenſe of weight and heat; and, in both caſes, various pains are often felt in the neighbouring parts.

DCCXXXIX.

When theſe ſymptoms have ſubſiſted for ſome time, ſome degree of a cold ſtage of pyrexia comes on, and a hot ſtage is formed; during which, the blood flows of a florid colour, in a greater or leſſer quantity, and continues to flow for a longer or a ſhorter time; but commonly, after ſome time, the effuſion ſpontaneouſly ceaſes, and together with it the pyrexia alſo.

DCCXL.

During the hot ſtage which precedes an hemorrhagy, the pulſe is frequent, quick*, full, and often hard; but, as the blood flows, the pulſe becomes ſofter and leſs frequent.

DCCXLI.

In hemorrhagies, blood drawn from a vein, does, upon its concreting, commonly ſhow the gluten ſeparated, or a cruſt formed, as in the caſes of Phlegmaſiæ.

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* The difference between a frequent and quick pulſe was mentioned in a note on article 336.

DCCXLII.

Hemorrhagies from internal cauſes, having once happened, are apt, after a certain interval, to return; in ſome caſes very often, and frequently at ſtated periods.

DCCXLIII.

Theſe are, in general, the phenomena of hemorrhagy; and if in ſome caſes all of them be not exquiſitely marked, or if perhaps ſome of them do not at all appear, it imports only, that, in different caſes the ſyſtem is more or leſs generally affected; and that, in ſome caſes, there are purely topical hemorrhagies, as there are purely topical inflammations.

SECT. II.

OF THE PROXIMATE CAUSE OF HEMORRHAGY.

DCCXLIV.

THE pathology of hemorrhagy ſeems to be ſufficiently obvious. Some inequality in the diſtribution of the blood, occaſions a congeſtion in particular parts of the ſanguiferous ſyſtem; that is, a greater quantity of blood is poured into certain veſſels than their natural capacity is ſuited to receive. Theſe veſſels become thereby, preternaturally diſtended; and this diſtention, proving a ſtimulus to them, excites their action to a greater degree than uſual, which puſhing the blood with unuſual force into the extremities of theſe veſſels, opens them by anaſtomoſis, or rupture;

and, if theſe extremities be looſely ſituated on external ſurfaces, or on the internal ſurfaces of certain cavities that open outwardly, a quantity of blood flows out of the body.

DCCXLV.

This reaſoning will, in ſome meaſure, explain the production of hemorrhagy. But it appears to me, that, in moſt caſes, there are other circumſtances that occur to produce it: for it is probable, that, in conſequence of congeſtion, a ſenſe of reſiſtance ariſes, and excites the action of the Vis Medicatrix Naturæ, the exertions of which are uſually made by the formation of a cold ſtage of pyrexia, inducing a more vigorous action of the veſſels; and the concurrence of this exertion more effectually opens the extremities, and occaſions the flowing out of the blood.

DCCXLVI.

What has been delivered in the two preceding paragraphs, ſeems to explain the whole phenomena of hemorrhagy, except the circumſtance of its frequent recurrence, which I apprehend may be explained in the following manner. The congeſtion and conſequent irritation being taken off by the flowing of the blood; this, therefore, ſoon after, ſpontaneouſly ceaſes; but, at the ſame time, the internal cauſes which had before produced the unequal diſtribution of the blood, commonly remain, and muſt now operate the more readily, as the over-ſtretched and relaxed veſſels of the part will more eaſily admit of a congeſtion of blood in them, and, conſequently, produce the ſame ſeries of phenomena as before.

DCCXLVII.

This may ſufficiently explain the ordinary return of hemorrhagy: but there is ſtill another circumſtance, which, as commonly concurring, is to be taken notice of; and that is, the general plethoric ſtate of the ſyſtem, which renders every cauſe of unequal diſtribution of more conſiderable effect. Though hemorrhagy may often depend upon the ſtate of the veſſels of a particular part being favourable to a congeſtion's being formed in them; yet, in order to that ſtate's producing its effect, it is neceſſary that the whole ſyſtem ſhould be at leaſt in its natural plethoric condition; and, if this ſhould be in any degree increaſed beyond what is natural, it will ſtill more certainly determine the effects of topical conformation to take place. The return of hemorrhagy, therefore, will be more certainly occaſioned, if the ſyſtem becomes preternaturally plethoric; but hemorrhagy has always a tendency to increaſe the plethoric ſtate of the ſyſtem, and, conſequently, to occaſion its own return.

DCCXLVIII.

To ſhow that hemorrhagy does contribute to produce or increaſe the plethoric ſtate of the ſyſtem, it is only neceſſary to obſerve, that the quantity of ſerous fluids being given, the ſtate of the excretions depends upon a certain balance between the force of the larger arteries propelling the blood, and the reſiſtance of the excretories: but the force of the arteries depends upon their fulneſs and diſtenſion, chiefly given to them by the quantity of red globules and gluten, which are, for the greateſt part confined to the red arteries; and therefore, the *ſpoliation* made by an hemorrhagy, being chiefly of red globules and gluten, the effuſion of blood muſt leave the red arteries more empty and weak. In conſequence of the weaker action of the red arteries, the excretions are in proportion diminiſhed; and, therefore, the ingeſta continuing the ſame, more fluids will be accumulated in the larger veſſels. It is by this means that the loſs of blood by hemorrhagies, whether artificial or ſpontaneous, if within certain bounds, is commonly ſo ſoon recovered: but as the diminution of the excretions, from a leſs quantity of fluid being impelled into the excretories, gives occaſion on to theſe veſſels to fall into a contracted ſtate; ſo, if this ſhall continue long, theſe veſſels will become more rigid, and will not yield to the ſame impelling force as before. Although the arteries, therefore, by new blood collected in them, ſhall have recovered their former fulneſs, tenſion, and force, yet this force will not be in balance with the reſiſtance of the more rigid excretories, ſo as to reſtore the former ſtate of excretion; and, conſequently, a further accumulation will take place in the arteries, and an increaſe of their plethoric ſtate be thereby induced. In this manner, we perceive more clearly, that hemorrhagy, as producing a more plethoric ſtate of the ſyſtem, has a tendency to occaſion its own recurrence with greater violence; and, as the renewal and further accumulation of blood require a determinate time, ſo, in the ſeveral repetitions of hemorrhagy, that time will be nearly the ſame; and therefore the returns of hemorrhagy will be commonly at ſtated periods, as has been obſerved frequently to happen.

DCCXLIX.

I have thus explained the nature of hemorrhagy in general, as depending upon ſome inequality in the diſtribution of the blood, occaſioning a congeſtion of it in particular parts of the ſanguiferous ſyſtem. It is indeed probable, that, in moſt perſons, the ſeveral parts of the ſanguiferous ſyſtem, are in balance with one another; and that the denſity, and conſequently the reſiſtance, in the ſeveral veſſels, is in proportion to the quantity of blood which each ſhould receive; from whence it frequently happens, that no inequality in the diſtribution of the blood takes place in the courſe of a long life. If, however, we conſider that the ſanguiferous ſyſtem is conſtantly in a plethoric ſtate, that is, that the veſſels are conſtantly diſtended beyond that ſize which they would be of, if free from any diſtending force, we ſhall be ſatisfied that this ſtate may be readily changed. For as, on the one hand, the veſſels are elaſtic, ſo as to be under a conſtant tendency to contract upon the withdrawing of any part of the diſtending force; and, on the other hand, are not ſo rigid but that, by an increaſe of the impetus of the blood in them, they may be more than ordinarily diſtended; ſo we can eaſily underſtand how, in moſt perſons, cauſes of an increaſed contraction or diſtenſion may ariſe in one part or other of the ſyſtem, or that an unequal diſtribution may take place; and how, in an exquiſitely diſtended or plethoric ſyſtem, a ſmall inequality in the diſtribution of the blood may form thoſe congeſtions which give occaſion to hemorrhagy.

DCCL.

In this manner I endeavour to explain how hemorrhagy may be occaſioned at any period of life, or in any part of the body: but hemorrhagies happen in certain parts more frequently than in others, and at certain periods of life more readily than at others; and therefore, in delivering the general doctrine of hemorrhagy, it may be required that I ſhould explain thoſe circumſtances which produce the ſpecialities mentioned; and I ſhall now attempt it.

DCCLI.

The human body, from being of a ſmall bulk at its firſt formation, grows afterwards to a conſiderable ſize. This increaſe of bulk conſiſts, in a great meaſure, in the increaſe of the quantity of fluids and a proportional enlargement of the containing veſſels. But, at the ſame time, the quantity of ſolid matter is alſo gradually increaſed; and, in whatever manner we may ſuppoſe this to be done, it is probable that the progreſs, in the whole of the growth of animal bodies, depends upon the extenſion of the arterial ſyſtem; and ſuch is the conſtitution of the ſanguiferous ſyſtem, that the motion of the blood in the arteries has a conſtant tendency to extend them in every dimenſion.

DCCLII.

As the ſtate of the animal ſolid is, at the firſt formation of the body, very lax and yielding; ſo the extenſion of the ſyſtem proceeds, at firſt, very faſt: but, as the extenſion gives occaſion to the appoſition of of more matter to the ſolid parts, theſe are, in proportion to their extenſion, conſtantly acquiring a greater denſity, and therefore giving more reſiſtance to their further extenſion and growth. Accordingly, we obſerve, that as the growth of the body advances, its increaſe, in any given time, becomes proportionally leſs, till at length it ceaſes altogether.

DCCLIII.

This is the general idea of the growth of the human body, till it attain the utmoſt bulk which it is capable of acquiring: but, it is to be remarked, that this growth does not proceed equally in every part of the body, it being requiſite for the œconomy of the ſyſtem, that certain parts ſhould be firſt evolved, and ſhould alſo acquire their full bulk ſooner than others. This appears particularly with reſpect to the head, the parts of which appear to be firſt evolved, and ſooneſt to acquire their full ſizes.

DCCLIV.

To favour this unequal growth, it is preſumed, that the dimenſions or the laxity of the veſſels of the head, or that the direction of the force of the blood, are adapted to the purpoſe; and from what has been ſaid in DCCLII. it will alſo certainly follow, that as the veſſels of the head grow faſteſt, and ſooneſt acquire their full ſize, ſo they will ſooneſt alſo acquire that denſity which will prevent their further extenſion. While, however, the force of the heart, and the quantity of the fluids, with reſpect to the whole ſyſtem, remain the ſame, the diſtending and extending powers will be directed to ſuch parts as have not yet acquired the ſame denſity and dimenſions of thoſe firſt evolved; and the diſtending and extending powers will proceed to operate till every part of the ſyſtem, in reſpect of denſity and reſiſtance, ſhall have been brought to be in balance with every other, and till the whole be in balance with the force of the heart, ſo that there can be no further growth in any particular part, unleſs ſome preternatural circumſtance ſhall happen to ariſe.

DCCLV.

In this proceſs of the growth of the body, as it ſeems in general to depend upon a certain balance between the force of the heart, or diſtending power, and the reſiſtance of the ſolids; ſo it will appear, that, while the ſolids remain very lax and yielding, ſome occaſional increaſe of the diſtending power may ariſe without producing any very perceptible diſorder in the ſyſtem. But, it will alſo appear, that, in proportion as the diſtending power and reſiſtance of the ſolids come to be more nearly in equal balance with one another, ſo any increaſe of the diſtending power will more readily produce a rupture of veſſels, which do not eaſily yield to extenſion.

DCCLVI.

From all this, it muſt follow, that the effects of any unuſual plethoric ſtate of the ſyſtem, will be different according as this ſhall occur at different periods of the growth of the body. Accordingly, it is evident, that if the plethoric ſtate ariſes while the head is yet growing, and while the determination of the blood is ſtill more to the head than to the other parts, the increaſed quantity of the blood will be eſpecially determined to the head; and as there alſo, at the ſame time, the balance between the diſtending and extending power is moſt nearly adjuſted, ſo the determination of the blood will moſt readily produce in that part a rupture of the veſſels, or an hemorrhagy. Hence it is, that hemorrhagies of the noſe ſo frequently happen in young perſons; and in theſe more readily, as they approach nearer to their acmé, or full growth; or, if it may be ſaid, perhaps more properly, as they approach nearer to the age of puberty, when, perhaps, in both ſexes, but eſpecially in the female, a new determination ariſes in the ſyſtem.

DCCLVII.

The determination of a greater quantity of blood to the veſſels of the head, might be ſuppoſed to occaſion a rupture of veſſels in other parts of the head, as well as in the noſe: but ſuch a rupture does not commonly happen; becauſe in the noſe there is, for the purpoſe of ſenſe, a conſiderable net-work of blood-veſſels expanded on the internal ſurface of the noſtrils, and covered only with thin and weak teguments. From this circumſtance it is, that upon any increaſed impetus of the blood in the veſſels of the head, thoſe of the noſe are moſt eaſily broken; and the effuſion from the noſe taking place, it not only relieves the other extremities of the external carotid, to which the arteries of the noſe chiefly belong, but relieves alſo, in a great meaſure, the ſyſtem of the internal carotid. For, from the internal carotid, certain branches are ſent to the noſe, are ſpread out on its internal ſurface, and probably inoſculated with the extremities of the external carotid: ſo that, whichſoever of the extremities are broken, the *vis derivationis* of Haller will take place; the effuſion will relieve the whole ſanguiferous ſyſtem of the head; and the ſame effuſion will alſo commonly prevent an hemorrhagy happening at the ſame time in any other part of the body.

DCCLVIII.

From theſe principles, it will appear why hemorrhagies of the noſe, ſo frequent before the period of puberty, or of the acmé, ſeldom happen after theſe periods: and I muſt obſerve further, that although they ſhould occur, they would not afford any objection to my doctrine, as ſuch hemorrhagies might be imputed to a peculiar laxity of the veſſels of the noſe, and perhaps to a habit acquired with reſpect to theſe veſſels, while the balance of the ſyſtem might be otherwiſe adjuſted.

DCCLIX.

When the proceſs of the growth of the body goes on regularly, and the balance of the ſyſtem is properly adjuſted to the gradual growth of the whole, as well as to the ſucceſſive growth of the ſeveral parts, even a plethoric ſtate does not produce any hemorrhagy, or at leaſt any after that of the noſe: but if, while the plethoric ſtate continues, any inequality ſhall alſo ſubſiſt in any of the parts of the ſyſtem, congeſtions, hemorrhagic or inflammatory, may be ſtill readily formed.

DCCLX.

In general, it may be obſerved, that, when the ſeveral parts of the ſyſtem of the aorta have attained their full growth, and are duly balanced with one another, if then any conſiderable degree of plethora remain or ariſe, the nicety of the balance will be between the ſyſtems of the aorta and pulmonary artery, or between the veſſels of the lungs and thoſe of all the reſt of the body. And although the leſſer capacity of the veſſels of the lungs is commonly compenſated by the greater velocity of the blood in them; yet, if this velocity be not always adjuſted to the neceſſary compenſation, it is probable that a plethoric ſtate of the whole body will always be eſpecially felt in the lungs; and, therefore, that an hemorrhagy, as the effect of a general plethora, way be frequently occaſioned in the lungs, even though there be no fault in their conformation.

DCCLXI.

In ſome caſes, perhaps, an hemorrhagy from the lungs, or an hemoptyſis, does ariſe from the general plethoric ſtate of the body; but an hemoptyſis more frequently does, and may be expected to happen, from a faulty proportion between the capacity of the lungs and that of the reſt of the body.

DCCLXII.

When ſuch a diſproportion takes place, it will be evident, that an hemoptyſis will eſpecially happen about the time that the body is approaching to its acmé; that is, when the ſyſtem of the aorta has arrived at its utmoſt extenſion and reſiſtance, and when, therefore, the plethoric ſtate of the whole muſt eſpecially affect the lungs.

DCCLXIII.

Accordingly, it has been conſtantly obſerved, that the hemoptyſis eſpecially occurs about the time of the body's arriving at its acmé; but I muſt remark alſo, that the hemorrhagy may occur ſooner or later, according as the balance between the veſſels of the lungs, and thoſe of the ſyſtem of the aorta, happen to be more or leſs exactly adjuſted to one another; and it may therefore often occur much later than the period mentioned, when that balance, though not quite even, is however not ſo ill adjuſted, but that ſome other concurring cauſes are neceſſary to give it effect.

DCCLXIV.

It was anciently remarked by Hippocrates, and has been confirmed by modern obſervation, that the hemoptyſis generally occurs in perſons between the age of fifteen and that of five-and thirty; that it may happen at any time between theſe two periods; but that it ſeldom happens before the former, or after the latter; and it may be proper here to inquire into the reaſon of theſe two limitations.

DCCLXV.

With reſpect to the firſt, the reaſon of it has been already explained in DCCLXII, and DCCLXIII.

With reſpect to the ſecond limitation, I expect that the reaſon of it will be underſtood from the following conſiderations.

It has been already obſerved, that the extenſion and growth of the body require the plethoric ſtate of the arterial ſyſtem; and nature has provided for this, partly by the conſtitution of the blood being ſuch, that a great portion of it is unfit to paſs into the exhalents and excretories; partly by giving a certain denſity and reſiſtance to the ſeveral exhalents and excretories through which the fluids might paſs out of the red arteries; and partly, but eſpecially, by a reſiſtance in the veins to the free paſſage of the blood into them from the arteries.

DCCLXVI.

With reſpect to this laſt and chief circumſtance, it appears from the experiments of Sir Clifton Wintringham, in his *Experimental Inquiry*, that the proportional denſity of the coats of the veins to that of the coats of the arteries, is greater in young than in old animals: From which it may be preſumed, that the reſiſtance to the paſſage of the blood from the arteries into the veins, is greater in young animals than in old; and, while this reſiſtance continues, the plethoric ſtate of the arteries muſt be conſtantly continued and ſupported. As however the denſity of the coats of the veſſels conſiſting chiefly of a cellular texture, is increaſed by preſſure; ſo, in proportion as the coats of the arteries are more expoſed to preſſure by diſtenſion than thoſe of the veins, the former, in the progreſs of the growth of the body, muſt increaſe much more in denſity than the latter; and, therefore, the coats of the arteries, in reſpect of denſity and reſiſtance, muſt come, in time, not only to be in balance with thoſe of the veins, but to prevail over them: a fact which is ſufficiently proved by the experiments of the above-mentioned ingenious author.

By theſe means, the proportional quantities of blood in the arteries and veins muſt change in the courſe of life. In younger animals, the quantity of blood in the arteries muſt be proportionally greater than in old ones; but by the increaſing denſity of the arteries, the quantity of blood in them muſt be continually diminiſhing, and that in the veins be proportionally increaſing, ſo as at length to be in a proportionally greater quantity than that in the arteries. When this change happens in the proportional quantities of the blood in the arteries and veins, it muſt be evident that the plethoric ſtate of the arteries will be in a great meaſure taken off; and, therefore, that the arterial hemorrhagy is no longer likely to happen; but that, if a general plethoric ſtate afterwards takes place in the ſyſtem, it muſt eſpecially appear in the veins.

DCCLXVII.

The change I have mentioned to happen in the ſtate of the arterial and venous ſyſtems, is properly ſuppoſed to take place in the human body about the age of thirty-five, when it is manifeſt that the vigour of the body, which depends ſo much upon the fullneſs and tenſion of the arterial ſyſtem, no longer increaſes; and therefore it is, that the ſame age is the period, after which the arterial hemorrhagy, hemoptyſis, hardly ever appears. It is true, there are inſtances of the hemoptyſis happening at a later period; but it is for the reaſons given (DCCLVIII.) which ſhow that an hemorrhagy may happen at any period of life, from accidental cauſes forming congeſtions, independent of the ſtate of the balance of the ſyſtem at that particular period.

DCCLXVIII.

I have ſaid (DCCLXVI.) that if, after the age of thirty-ſive, a general and preternatural plethoric ſtate occur, it muſt eſpecially appear in the venous ſyſtem; and I muſt now obſerve, that this venous plethora may alſo give occaſion to hemorrhagy.

DCCLXIX.

If a plethoric ſtate of the venous ſyſtem take place, it is to be preſumed, that it will eſpecially and in the firſt place affect the ſyſtem of the vena portarum, in which the motion of the venous blood is more ſlow than elſewhere; in which the motion of the blood is little aſſiſted by external compreſſion; and in which, from the want of valves in the veins that form the vena portarum, the motion of the blood is little aſſiſted by the compreſſion that is applied; while, from the ſame want of valves in thoſe veins, the blood is more ready to regurgitate in them. Whether any regurgitation of the blood can produce an action in the veins, and which inverted, or directed towards their extremities, can force theſe, and occaſion hemorrhagy, may perhaps be diſputed: but it appears to me that an hemorrhagy, produced by a plethoric ſtate of the veins, may be explained in another and more probable manner. If the blood be accumulated in the veins, from any interruption of its proper courſe, that accumulation muſt reſiſt the free paſſage of the blood from the arteries into the veins. This again muſt produce ſome congeſtions in the extremities of the red arteries, and therefore ſome increaſed action in them, which muſt be determined with more than uſual force, both upon the extremities of the arteries, and upon the exhalants proceeding from them; and this force may occaſion an effuſion of blood, either by anaſtomoſis or rupture.

DCCLXX.

In this manner I apprehend the hemorrhoidal flux is to be explained, ſo far as it depends upon the ſtate of the whole ſyſtem. It appears moſt commonly to proceed from the extremities of the hemorrhoidal veſſels, which, being the moſt dependent and diſtant branches of thoſe veins that form the vena portarum, are therefore the moſt readily affected by every accumulation of blood in that ſyſtem of veins, and conſequently by any general plethora in the venous ſyſtem.

DCCLXXI.

It is here to be obſerved, that I have ſpoken of this hemorrhagy as proceeding from the hemorrhoidal veſſels only, as indeed it moſt commonly does; but it will be readily underſtood, that the ſame accumulation and reſiſtance to the venous blood may, from various cauſes, affect many of the extremities of the vena portarum, which lie very ſuperficially upon the internal ſurface of the alimentary canal, and give occaſion to what has been called the *Morbus Niger* or *Melæna.*

DCCLXXII.

Another part in which an unuſually plethoric ſtate of the veins may have particular effects, and occaſion hemorrhagy, is the head. In this, the venous ſyſtem is of a peculiar conformation, and ſuch as ſeems intended by nature to give there a ſlower motion to the venous blood. If, therefore, the plethoric ſtate of the venous ſyſtem in general, which ſeems to increaſe as life advances, ſhould at length increaſe to a great degree, it may very readily affect the venous veſſels of the head, and produce there ſuch a reſiſtance to the arterial blood, as to determine this to be poured out from the noſe, or in the cavity of the cranium. The ſpecial effect of the latter effuſion will be, to produce the diſeaſe termed Apoplexy; and which, therefore, is properly named by Doctor HOFFMAN, *Hemorrhagai Cerebri:* and the explanation of its cauſe, which I have now given, explains well why it happens eſpecially to men of large heads and ſhort necks, and to men in the decline of life, when the powers promoting the motion of the blood are much weakened.

DCCLXXIII.

I have thus attempted to give the hiſtory of the plethoirc and hemorrhagic ſtates of the human body, as they occur at the different periods of life; and hope I have thereby explained, not only the nature of hemorrhagy in general, but alſo of the particular hemorrhagies which moſt commonly appear, and as they occur ſucceſſively at the different periods of life.

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SECT. III.

OF THE REMOTE CAUSES OF HEMORRHAGY.

DCCLXXIV.

IN the explanation hitherto given, I have eſpecially conſidered the prediſpoſition to hemorrhagy; but it proper is alſo, and even neceſſary; to take notice of the occaſional cauſes, which not only concur with the prediſponent, in exciting hemorrhagy, but may alſo ſometimes be the ſole cauſes of it.

DCCLXXV.

Theſe occaſional cauſes are,

1. External heat, which, by rarefying the blood, produces or increaſes the plethoric ſtate of the body; and the ſame heat, as giving a ſtimulus to the whole ſyſtem, muſt urge any particular determinations before eſtabliſhed, ſtill further, or may urge to exceſs any inequality, otherwiſe innocent; ſo that, in either way, external heat may immediately excite hemorrhagies, to which there was a prediſpoſition, or may form congeſtions where there were none before, and thereby occaſion hemorrhagy.

2. A conſiderable and ſudden diminution of the weight of the atmoſphere, which ſeems to occaſion the ſame effects as heat, by producing alſo an expanſion of the blood;

3. Whatever increaſes the force of the circulation, and thereby the velocity of the blood, may operate in the ſame manner as heat, in urging not only previous determinations with violence, but alſo in urging to exceſs inequalities, otherwiſe innocent. All violent exerciſe, therefore, and eſpecially all violent efforts, which, not only by a larger and longer inſpiration, but alſo by the ſimultaneous action of many muſcles interrupting the free motion of the blood, impel it with unuſual force into the extreme veſſels more generally, and, according to the different poſtures of the body, and mode of the effort, into certain veſſels more particularly.

Among the cauſes increaſing the force of the circulation,, anger* and other violent active paſſions are to be reckoned.

4. The violent exerciſe of particular parts of the body. If theſe are already affected with congeſtions, or liable to them, ſuch exerciſe may be conſidered as a ſtimulus applied to the veſſels of that particular part. Thus, any violent exerciſe of reſpiration † may excite hemoptyſis, or occaſion its return.

5. The poſtures of the body increaſing determinations, or ligatures occaſioning accumulations of the blood in particular parts of the body.

6. A determination into certain veſſels rendered habitual by the frequent repetition of hemorrhagy from them.

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* Paſſionate children frequently bring on a bleeding of the noſe; and when ſuch an accident happens, the childs face, before the blood breaks out, becomes red, and all the veſſels of the head and neck ſeem diſtended and full.

† As playing on the German flute, or any other wind inſtrument that requires a great force to blow it.

7. Cold, externally applied, as changing the diſtribution of the blood, and determining it in greater quantity into the internal parts.

SECT. IV.

OF THE CURE OF HEMORRHAGY.

DCCLXXVI.

Having thus conſidered the proximate and remote cauſes of hemorrhagy in general, our next buſineſs is, to treat of the cure of the diſeaſe in the ſame manner.

In entering upon this ſubject, the firſt queſtion which preſents itſelf, is, Whether the cure of hemorrhagies ought to be attempted by art, or if they ſhould be left to the conduct of nature?

DCCLXXVII.

The latter opinion was the favourite doctrine of the celebrated Dr. Stahl, and his followers. They maintained, that the human body is much diſpoſed to a plethoric ſtate; and, conſequently, to many diſorders which nature endeavours to obviate and relieve by exciting hemorrhagy: that this, therefore, is often neceſſary to the balance and health of the ſyſtem: that it is accordingly to be generally encouraged, ſometimes ſolicited, and is not to be ſuppreſſed, unleſs when it goes to great exceſs, or happens in parts in which it may be dangerous.

DCCLXXVIII.

Much of this doctrine may be admitted. The human body, upon many occaſions, becomes preternaturally plethoric; and the dangerous conſequences which might from thence be apprehended, ſeem to be ob-

obviated by an hemorrhagy taking place: and, further, the neceſſity of hemorrhagy often appears from hence, that the ſuppreſſion of it ſeems to occaſion many diſorders.

All this ſeems to be juſt; but, in the concluſion drawn from it, there is a fallacy.

DCCLXXIX.

It appears to me certain, that hemorrhagy, either upon its firſt attack, or upon its after recurrence, is never neceſſary to the health of the body, excepting upon the ſuppoſition, that the plethoric ſtate which ſeems to require the evacuation, cannot be otherwiſe prevented or removed; and as I imagine it poſſible by other means to prevent or remove a plethoric ſtate, ſo I do not think that hemorrhagy is, in all caſes, neceſſary. In general, I am of opinion, that hemorrhagy is to be avoided.

1. Becauſe it does not always happen in parts where it is ſafe.

2. Becauſe often, while it does relieve a plethoric ſtate, it may, at the ſame time, induce a very dangerous diſeaſe.

3. Becauſe it may often go to exceſs, and either endanger life, or induce a dangerous infirmity.

And, laſtly, Becauſe it has a tendency to increaſe the plethoric ſtate it was meant to relieve; to occaſion its own recurrence, (DCCXXI.) and thereby to induce a habit, which, if left to the precarious and unequal operation of nature, may, from the frequent errors of this, be attended with much danger.

DCCLXXX.

It is further to be conſidered, that hemorrhagies do not always ariſe from the neceſſities of the ſyſtem, but often proceed from incidental cauſes. It appears to me, that all hemorrhagies of the latter kind may be immediately ſuppreſſed, and the repetition of them, as it induces a plethora, and a habit not otherwiſe neceſſary may be prevented with great advantage.

DCCLXXXI.

Upon the whole of this ſubject I conclude, that every preternatural hemorrhagy, or, in other words, every one except that of the menſes in females, is to be avoided, and eſpecially the returns of it prevented; and I therefore now proceed to mention, how hemorrhagy, and its recurrences, may, and ſhould be prevented.

DCCLXXXII.

From the principles delivered above, it will immediately appear, that the prevention, either of the firſt attacks, or the returns of hemorrhagy, will chiefly, and in the firſt place, depend upon the preventing or removing, any conſiderable degree of a plethoric ſtate which may happen to prevail in the body. It is true, that, where the hemorrhagy depends upon the particular conformation of certain parts, rather than upon the general plethoric ſtate of the whole; the meaſures for removing or preventing the latter, may not always be ſufficient for preventing hemorrhagy: but at the ſame time it muſt be evident, that determinations, in conſequence of the conformation of particular parts, will always be urged more or leſs, in proportion to the greater or leſſer degree of the plethoric ſtate of the whole ſyſtem; and therefore, that, even in the caſes depending upon particular conformation, the preventing or removing an unuſually plethoric ſtate, will always be a chief means of preventing hemorrhagy. It is further to be attended to, that there may be ſeveral inequalities in the balance of the ſyſtem, which may have little or no effect unleſs when the ſyſtem becomes preternaturally plethoric; and therefore, that, in all caſes, the preventing or removing of the plethoric ſtate of the ſyſtem, will be a chief means of preventing the firſt attacks, or the returns of hemorrhagy. It now, therefore, remains to explain, how the plethoric ſtate of the ſyſtem is to be prevented or removed.

DCCLXXXIII.

The fluids of the human body are in continual waſte by the excretions, but are commonly replaced by the aliments taken in; and if the quantity of aliments in any meaſure exceed that of the excretions, an increaſe of the quantity of the fluids of the body, or, in other words, a plethoric ſtate, muſt neceſſarily ariſe. This, to a certain degree, is requiſite for the growth of the body, but, even then, if the proportion of the aliments to the excretions, be greater than is ſuited to the growth of the body, and more certainly ſtill, if, after the growth is completed, when an equality between the *ingeſta* and the *excreta* ſhould be eſtabliſhed, the diſproportion ſtill continue, a preternaturally plethoric ſtate muſt ariſe. In both caſes, it is evident, that the plethora muſt be prevented or corrected by adjuſting the ingeſta and excreta to each other; which generally may be done, either by diminiſhing the ingeſta, or by increaſing the excreta*. The former may be effected by the management of the diet, the latter by the management of exerciſe.

DCCLXXXIV.

The ingeſta may be diminiſhed, either by giving aliment in leſs quantity than uſual, or by giving aliments of a leſs nutritious quality; that is, aliments of a ſubſtance which, under the ſame bulk and weight, contain leſs of a matter capable of being converted into animal fluids, and more of a matter ready to paſs off by the excretions, and conſequently leſs of a matter to be retained and accumulated in the veſſels.

The choice of aliments ſuited to theſe purpoſes

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* This effect may ſurely be more ſpeedily produced by uſing both theſe means at once.

muſt be left to be directed by the doctrines of the Materia Medica.

DCCLXXXV.

The increaſing of the excreta, and thereby diminiſhing the plethoric ſtate of the ſyſtem, is to be obtained by increaſing the exerciſe of the body; and generally for adjuſting the balance between the ingeſta and excreta, and thereby obviating the plethoric ſtate, it is neceſſary that exerciſe, in a due meaſure, be very conſtantly employed*.

DCCLXXXVI.

The obſerving abſtinence, and the employment of exerciſe, for obviating or removing the plethoric ſtate of the body, were formerly conſidered pretty fully, when treating of the gout, (DXLVIII, to DLII.) ſo that the leſs is neceſſary to be ſaid here: and it is now only requiſite to obſerve, that the ſame doubts, as in caſe of the gout, do not occur here with regard to the ſafety of thoſe meaſures, which, in a plethoric ſtate of the body diſpoſing to hemorrhagy, are always admiſſible and proper. Here, however, it is to be obſerved, that ſome choice in the mode of exerciſe is neceſſary, and that it ſhould be different according to the particular determinations which may happen to prevail in the ſyſtem. In general, in the caſe of plethora diſpoſing to hemorrhagy bodily exerciſe will always be hazardous, and geſtation more commonly ſafe.

DCCLXXXVII.

Artificial evacuations may be employed to diminiſh the plethoric ſtate of the body; and when, at any time, it has become conſiderable, and immediately threatens a diſeaſe, theſe evacuations ſhould be made to the quantity that the ſymptoms ſeem to require. But it is conſtantly to be attended to, that blood-lettings are improperly employed to prevent a plethora, as they have a tendency to increaſe it (DCCXXI.) and as they require to be often repeated, and are thereby apt to induce a habit which may be attended with much danger*.

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* The exerciſe beſt adapted to theſe caſes is ſuch as does not heat the body or increaſe the force of the blood. Hence riding moderately, travelling in a carriage, or ſailing, are preferable to walking. Young people may uſe ſuch gentle exerciſe as may amuſe the mind, and at the ſame time conduce to bodily health, as gardening, ſeveral agricultural labours, or mechanical operations; or ſome of the ſports that require a gentle bodily exertion as bowling, archery, &c.

DCCLXXXVIII.

While a plethora, and thereby the prediſpoſition to hemorrhagy, is avoided, or removed, the other meaſures neceſſary for preventing the occurrence of this, are thoſe for avoiding the remote cauſes. Theſe have been enumerated in DCCLXXV, and the means of avoiding

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* Briſk purges are perhaps preferable to every other mode of evacuating the ingeſta ; and in theſe caſes we may have recourſe to draſtics without any apprehenſion of danger The following formulae may ſerve as ſpecimens of the purges uſeful in theſe caſes.

℞. Pulv. Rad. Jalap. ℥ſs.
Aromat. ʒi.
Sal. Tart. ʒſs.
Syr. Simp. q. ſ.
M. f. Elect.

This electuary may be divided into four doſes, one of which may be taken early in the morning, as occaſion may require.

℞. Pilul. Rufi. ʒſs,
Calomel. gr. vi.
Syr. Simpl. q. ſ.
M. f. Maſſa in pilulas equales ſex dividend.

Two of theſe pills may be taken in the evening, and the remaining four the following morning.

℞. Reſin. Jalap. ℈i.
Tere in mortar. cum ſacch. alb. ʒſs.
Amygdal. dulc. decorticat. No. ii.
Adde gradatim Aq. Cinnamon ſimpl. ℥i.
M. f. hauſt. mane ſumend.

This is a very elegant purge, and has the peculiar advantage of operating powerfully without griping or occaſioning much inconvenience.

ing them, ſo far as within our power, are ſufficiently obvious.

DCCLXXXIX.

Having thus mentioned the means of preventing either the firſt attacks, or the recurrence of hemorrhagy; I muſt next ſay how it is to be managed when it has actually come on.

DCCXC.

When an hemorrhagy has come on which appears to have ariſen from a preternaturally plethoric ſtate, or from ſome change in the balance of the ſanguiferous ſyſtem, no meaſures are to be immediately taken for ſuppreſſing it; as we may expect, that, when the quantity of blood neceſſary for the relief of the ſyſtem is poured out, the effuſion will ſpontaneouſly ceaſe*.

DCCXCI.

In many caſes, however, it may be ſuſpected, that the quantity of blood poured out, is not exactly in proportion to the neceſſities of the ſyſtem, either for relieving a general plethora or a particular congeſtion, but that it is often to a greater quantity than theſe require. This we ſuppoſe to happen in conſequence of an inflammatory diatheſis prevailing, and of a febrile ſpaſm being formed; and therefore it is in many caſes proper, as well as for the moſt part ſafe, to moderate the evacuation, and, when it threatens to go to exceſs, to ſuppreſs it altogether.

DCCXCII.

An hemorrhagy may be moderated by avoiding any irritation that might concur to increaſe it; ſo that every part of the antiphlogiſtic regimen is to be obſerved;

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* The doctrine here delivered, and the practice founded on it, is pure Stahlianiſm; and is, doubtleſs, in theſe caſes the beſt practice. A patient, however, is not always ſatisfied when the phyſician is inactive, which often obliges him to preſcribe ſome of the medicamenta inertiora, and the choice of them muſt be left to the practitioner's own ſagacity.

ſerved; particularly external heat, both as it rarefies the fluids, and ſtimulates the ſolids, is to be carefully avoided: and, it is probable, than in all caſes an hemorrhagy may be ſafely moderated by cool air applied, and cold drink exhibited.

DCCXCIII.

A ſecond means for the ſame purpoſe, is, the uſe of refrigerant medicines, and particularly of acids and nitre*.

DCCXCIV.

A third means which has been frequently employed, is that of blood-letting. The propriety of this practice may be doubtful, as the quantity of blood poured out by the hemorrhagy, may be ſuppoſed to anſwer the purpoſe of an evacuation in any other way; and I am ready to allow, that the practice has been often ſuperfluous, and ſometimes hurtful, by making a greater evacuation than was neceſſary or ſafe. At the ſame time, I apprehend it is not for the mere purpoſe of evacuating, that blood-letting is to be practiſed in the cure of hemorrhagy; but that it is further neceſſary for taking off the inflammatory diatheſis which prevails, and the febrile ſpaſm that has been formed. Accordingly, in the caſe of hemorrhagy, when the pulſe is not frequent, but quick and full, and does not become ſofter or ſlower upon the flowing of the blood, and that the effuſion is profuſe, and threatens to continue ſo, it appears to me, that blood-letting may be neceſſary, and I have often found it uſeful. It ſeems probable alſo, that the particular circumſtances of veneſection may render it more powerful for taking off the tenſion and inflammatory irritation of the ſyſtem, than any gradual flow from an artery.

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* The refrigerent medicines have been enumerated in former notes, art. 134 and 135. The Tinctura roſarum is a very proper acid refrigerant in moſt hemorrhagies. The doſe of it muſt be proportioned to the exigency of the caſe; it ought never to exceed four ounces in the ſpace of an hour; an ounce every half hour is generally ſufficient, and a greater quantity at a time frequently occaſions gripes, and by its irritation, increaſes the diſeaſe; eſpecially if it does not produce a diarrhœa which is ſeldom the caſe. With reſpect to nitre, the precautions, mentioned in the note on article 135, muſt be obſerved. The dulcified ſpirit of vitriol or of nitre are not always ſafe medicines in theſe caſes, as they heat and irritate. The acid of tartar, in the form deſcribed in the note on art. 134, anſwers very well in moſt caſes.

DCCXCV.

That a ſpaſm of the extreme veſſels has a ſhare in ſupporting hemorrhagy, appears to me probable from hence, that bliſtering has been often found uſeful in moderating and ſuppreſſing the diſeaſe.

DCCXCVI.

Do emetics and vomiting contribute to the cure of hemorrhagy? See DR BRYAN ROBINSON on the virtues and power of medicines.

DCCXCVII.

When an hemorrhagy is very profuſe, and ſeems to endanger life, or even threatens to induce a dangerous infirmity, it is agreed on all hands, that it is to be immediately ſuppreſſed by every means in our power; and particularly, that, beſides the means above-mentioned for moderating the diſeaſe, aſtringents, internal or external, where the latter can be applied, are to be employed for ſuppreſſing it.

DCCXCVIII.

The internal aſtringents are either vegetable or foſſil.

The vegetable aſtringents are ſeldom very powerful in the cure of hemorrhagies, except thoſe of the alimentary canal.

The foſſil aſtringents are more powerful; but ſome choice amongſt the different kinds may be proper.

The chalybeats, ſo frequently employed, do not appear to me to be very powerful.

The preparations of lead are certainly more ſo, but are otherwiſe of ſo pernicious a quality, that they ſhould not be employed except in caſes of the utmoſt danger. The Tinctura Saturnina, or Antiphthiſica, as it has been called, appears to be of little efficacy*; but whether from the ſmall portion of lead which it contains, or from the ſtate in which the lead is in it, I am uncertain.

The foſſile aſtringent that appears to me the moſt powerful, and at the ſame time the moſt ſafe, is alum†.

DCCXCIX.

External aſtringents, when they can be applied, are more effectual than the internal. The choice of theſe is left to the ſurgeons.

DCCC.

The moſt powerful of all the aſtringents appears to me to be cold, which may be employed, either by applying cold water to the ſurface of the body, or by throwing it into the internal parts‡.

DCCCI.

For ſuppreſſing hemorrhagies, many ſuperſtitious remedies and charms§ have been recommended, and pretended

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* It is a very dangerous medicine, and ought to be uſed with the utmoſt caution. But ſince its efficacy is doubtful, we had better abandon it altogether, except when every other remedy fails.

† Alum frequently irritates if given in too large doſes at firſt, proving ſometimes a purgative and ſometimes an emetic. In caſes of great danger, however, it muſt be given in large quantities by frequently repeating ſmall doſes. Five grains is a ſufficient doſe to begin with, but it may be repeated every hour, or every half hour. Some authors have given it in doſes of a ſcruple ſeveral times a day; but that is certainly too great a quantity at once.

‡ Van Swieten relates a caſe of a bleeding at the noſe being ſtopped by the application of pledgets, dipt in cold wine and water, to the ſcrotum, a ſhivering was produced, and the bleeding ſtopped.

§ It is aſtoniſhing that theſe charms ſhould continue in uſe in this enlightened age. They are practiſed among the country people frequently. Some of them, however, act mechanically, as the applipretended to have been employed with ſucceſs. The ſeeming ſucceſs of theſe, however, has been generally owing to the by-ſtanders miſtaken a ſpontaneous ceaſing of the hemorrhagy for the effect of the remedy. At the ſame time, I believe, that thoſe remedies may have been ſometimes uſeful, by impreſſing the mind with horror, awe, or dread.

DCCCII.

Upon occaſion of the profuſe hemorrhagies, opiates have been employed with advantage; and, when the fulneſs and inflammatory diatheſis of the ſyſtem have been previouſly taken off by the hemorrhagy itſelf, or by blood-letting, I think opiates may be employed with ſafety*.

DCCCIII.

For reſtraining hemorrhagy, ligatures have been applied upon the limbs, in the view of retarding the return of the venous blood from the extremities; but they appear to me to be of uncertain andambiguous uſe.

DCCCIV.

In the caſe of profuſe hemorrhagies, no pains are to be taken to prevent a Deliquium Animi, or fainting, as the happening of this is often the moſt certain means of ſtopping the hemorrhagy†.

DCCCV.

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cation of the great key of the church-door to the nape of the neck, in bleedings at the noſe; drinking large draughts of cold water out of a human ſcull; &c. The cold iron and the cold water were in fact proper remedies.

[*] Opium, however, ought to be cautiouſly employed in active hemorrhagies, which are frequently accompanied with a phlogiſtic diatheſis; opium is generally, if not univerſally, hurtful. But, as the author obſerves, when the hemorrhagy has reduced the inflammatory diatheſis, we may then give opium freely: and for this purpoſe large doſes are preferable to ſmaller ones.

[†] Attention, however, is neceſſary in this caſe, as fainting is frequently the forerunner of death.

DCCCV.

Having thus delivered the general doctrine of hemorrhagy, I proceed to conſider the particular caſes of it. It may perhaps be remarked, that I have marked fewer of theſe than are commonly enumerated by the noſologiſts; but my reaſons for differing from theſe authors, muſt be left to a noſological diſcuſſion, to be entered into elſewhere more properly than here.

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C H A P. II.

OF THE EPISTAXIS, OR HEMORRHAGY OF THE NOSE.

DCCCVI.

THE ſtate of the veſſels upon the internal ſurface of the noſe being ſuch as already mentioned (DCCLVII.), renders hemorrhagy from that more frequent than from any other part of the body.

DCCCVII.

The blood commonly flows from one noſtril only, and probably becauſe an hemorrhagy from one veſſel relieves the congeſtion in all the neighbouring veſſels.

The blood flowing from both noſtrils at the ſame time, ſhows commonly a more conſiderable diſeaſe.

DCCCVIII.

This hemorrhagy happens to perſons of every conſtitution and temperament, but moſt frequently to thoſe of a plethoric habit, and ſanguine temperament. It happens to both ſexes, but moſt frequently to the male.

DCCCIX.

This hemorrhagy may occur at any time of life;

but moſt commonly happens to young perſons, owing to the ſtate of the balance of the ſyſtem peculiar to that age, as mentioned in DCCLVI.

DCCCX.

Although generally it happens to perſons before they have arrived at their full growth; and moſt rarely afterwards; yet ſometimes it happens to perſons after their acmé, and during the ſtate of manhood: and it muſt then be imputed to an unuſual plethoric ſtate of the ſyſtem; to an habitual determination of the blood to the veſſels of the noſe; or to the particular weakneſs of theſe.

DCCCXI.

In all theſe caſes the diſeaſe may be conſidered as an hemorrhagy purely arterial, and depending upon an arterial plethora; but it ſometimes occurs in the decline of life, when probably it depends upon and may be conſidered as a mark of a venous plethora of the veſſels of the head. See DCCLXXII.

DCCCXII.

This hemorrhagy happens alſo at any period of life, in certain febrile diſeaſes, which are altogether or partly of an inflammatory nature, and which ſhow a particular determination of the blood to the veſſels of the head. Theſe diſeaſes often admit of a ſolution by this hemorrhagy, when it may be properly termed *critical.*

DCCCXIII.

The diſeaſe ſometimes comes on without any previous ſymptoms; particularly, when ſome external violence has a ſhare in producing it. But, when it proceeds entirely from an internal cauſe, it is commonly preceded by headachs, redneſs of the eyes, a florid colour of the face, an unuſual pulſation in the temples, a ſenſe of fulneſs about the noſe, and an itching of the noſtrils. A round belly, pale urine, coldneſs of the feet, and cold ſhivering over the whole body, are alſo ſometimes among the ſymptoms that precede the diſeaſe.

DCCCXIV.

From the weakneſs of the veſſels of the noſe, the blood often flows from them without any conſiderable effort of the whole ſyſtem, and therefore without any obſervable febrile diſorder; which, however, in many caſes, is, in all its circumſtances, very diſcernible.

DCCCXV.

An hemorrhagy of the noſe happening to young perſons, is, and may generally be conſidered as a ſlight diſeaſe of little conſequence, and hardly requiring any remedy. But, even in young perſons, when it recurs very frequently, and is very copious, it will require particular attention, as it is to be conſidered as a mark of arterial plethora; and, as frequently returning, it may increaſe the plethoric ſtate; which, in a more advanced ſtage of life, may give the blood a determination to parts from which the hemorrhagy would be more dangerous. All this will more particularly require attention, according as the marks of plethora, and of a particular congeſtion, preceding the hemorrhagy, are more conſiderable; and as the flowing of the blood is attended with a more conſiderable degree of febrile diſorder.

DCCCXVI.

When the epiſtaxis happens to perſons after their acmé, returning frequently, and flowing copiouſly, it is always to be conſidered as a dangerous diſeaſe, and as more certainly threatening the conſequences mentioned in the laſt paragraph.

DCCCXVII.

When this hemorrhagy happens in the decline of life, it may be conſidered as in itſelf very ſalutary: but at the ſame time, it is to be conſidered as a mark of a very dangerous ſtate of the ſyſtem; that is, as a mark of a very ſtrong tendency to a venous plethora in the veſſels of the head: and I have accordingly obſerved,

ſerved it often followed by apoplexy, palſy, or ſuch like diſeaſes.

DCCCXVIII.

When an hemorrhagy from the noſe happens in febrile diſeaſes, as mentioned in DCCCXII, and is in pretty large quantity, it may be conſidered as critical and ſalutary; but it is very apt to be profuſe, and even in this way dangerous.

It upon ſome occaſions occurs during the eruptive fever of ſeveral exanthemata, and is in ſuch caſes ſometimes ſalutary; but, if theſe exanthemata be accompanied with any putrid tendency, this hemorrhagy, like artificial blood-lettings, may have very bad effects.

DCCCXIX.

Having thus explained the ſeveral circumſtances of epiſtaxis, I proceed to conſider the management and cure of it. I uſe the expreſſion of *management*, becauſe it has been uſually thought to require no cure, but that nature ſhould be allowed to throw out blood in this way very frequently; and as often as it appears to ariſe from internal cauſes, that is, from a ſtate of the ſyſtem ſuppoſed to require ſuch evacuation.

DCCCXX.

I am however of opinion, for the reaſons given in DCCLXXIX. that this diſeaſe is very ſeldom to be left to the conduct of nature; and that in all caſes it ſhould be moderated by keeping the patient in cool air; by giving cold drink; by keeping the body and head erect; by avoiding any blowing of the noſe, ſpeaking, or other irritation: and, when the blood has flowed for ſome time, without ſhewing any tendency to ceaſe, a profuſe bleeding is to be prevented by meaſures employed to ſtop it; ſuch as preſſing the noſtril from which the blood flows, waſhing the face with cold water, or applying this to other parts of the body.

DCCCXXI.

Even in the caſe of young perſons, where the diſeaſe is leaſt hazardous, and even in the firſt attacks, I judge ſuch meaſures to be proper; but they will be ſtill more proper if the diſeaſe frequently recurs without any external violence; if the returns ſhall happen to perſons of a habit diſpoſed to be plethoric; and, more particularly, if the marks of a plethoric ſtate appear in the precedent ſymptoms. (DCCCXIII.)

DCCCXXII.

Even in young perſons, if the bleeding be very profuſe and long continued, and more eſpecially if the pulſe become weak and the face pale, I apprehend it will be proper to ſuppreſs the hemorrhagy by every means in our power. See DCCXCVII. and following paragraphs*.

DCCCXXIII.

Further, in the ſame caſe of young perſons, when the returns of this hemorrhagy become frequent, and eſpecially with the marks of a plethoric habit, I think it neceſſary to employ ſuch a regimen as may prevent a plethoric ſtate. (DCCLXXXIII.—DCCLXXXVII.) At the ſame time, care ſhould be taken to avoid all circumſtances which may determine the blood more fully to the veſſels of the head, or prevent its free return from them; and by keeping an open belly, to make ſome derivation from them†.

DCCCXXIV.

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* Beſide the general directions referred to above, plugs of lint or cotton, impregnated with vinegar and a ſolution of alum, are recommended. Thick cotton threads, impregnated with theſe ſtyptic ſolutions, have been paſſed through the noſtril, and brought out by the mouth by means of a bent probe, with great ſucceſs.

† For this purpoſe Glauber's ſalt ſeems peculiarly adapted. It operates ſpeedily, and without too much irritation; evacuating, at the ſame time, not only the contents of the inteſtinal canal, but the ſuperfluities of the ſanguiferous ſyſtem.

DCCCXXIV.

In adult perſons, liable to frequent returns of the epiſtaxis, the whole of the meaſures propoſed (DCCCXXIII.), are more certainly and freely to be employed. When, with the circumſtances mentioned in DCCCXIII; the tendency to a profuſe hemorrhagy appears, a bleeding at the arm may be proper, in young perſons; but in the caſe of adults, it will be ſtill more allowable, and even neceſſary.

DCCCXXV.

In perſons of any age liable to frequent returns of this hemorrhagy, when the meaſures propoſed in DCCCXVII. *et. ſeq.* ſhall have been neglected, or from peculiar circumſtances in the balance of the ſyſtem, ſhall have proved ineffectual, and the ſymptoms threatening hemorrhagy (DCCCXVIII.) ſhall appear, it will then be proper; by blood-letting, cooling purgatives, and every part of the antiplogiſtic regimen, to prevent the hemorrhagy, or at leaſt to prevent its being profuſe when it does happen.

DCCCXXVI.

In the circumſtances juſt now mentioned (DCCCXXV.) the meaſures propoſed are proper, and even neceſſary; but it ſhould at the ſame time be obſerved; that theſe are practiſed with much leſs advantage than thoſe pointed out in DCCCXXIV. becauſe, though thoſe ſuggeſted here may prevent the coming on of the hemorrhagy for the preſent, they certainly however diſpoſe to the return of that plethoric ſtate which required their being uſed; and there can be no proper ſecurity againſt returns of the diſeaſe, but by purſuing the means propoſed in DCCCXXIII.

DCCCXXVII.

When the hemorrhagy of the noſe happens to perſons approaching their full growth, and when its returns have been preceded by the ſymptoms DCCCXIII. it may be ſuppoſed, that, if the returns can be prevented by the meaſures propoſed in DCCCXXV. theſe may be ſafely employed ; as the plethoric ſtate induced will be rendered ſafe, by the change which is ſoon to take place in the balance of the ſyſtem. This, however, cannot be admitted ; as the evacuations practiſed upon this plan will have all the conſequences which, I have already obſerved, may follow the recurrence of the hemorrhagy itſelf.

DCCCXXVIII.

When the hemorrhagy of the noſe ſhall be found to make its returns at nearly ſtated periods, the meaſures for preventing it (DCCCXXV.) may be practiſed with greater certainty ; and, upon every repetition of blood-letting, by diminiſhing the quantity taken away, its tendency to induce a plethora may be in ſome meaſure avoided. When, indeed, the repetition of evacuations is truly unavoidable, the diminiſhing them upon every repetition is properly practiſed : but it is a practice of nice and precarious management, and ſhould by no means be truſted to, ſo far as to ſuperſede the meaſures propoſed in DCCCXXV. wherever theſe can be admitted.

DCCCXXIX.

When the hemorrhagy of the noſe happens in conſequence of a venous plethora in the veſſels of the head, as in DCCLXXII. the flowing of the blood pretty largely may be allowed, eſpecially when it happens after the ſuppreſſion or ceaſing of the menſtrual or hemorrhoidal flux. But, though the flowing of the blood is, on its firſt occurring, to be allowed, there is nothing more proper than guarding againſt its returns. This is to be done not only by the meaſures propoſed in DCCLXXXIII. *et. ſeq.* but, as the effects of a plethoric ſtate of the veſſels of the head are very uncertain, ſo, upon any appearance of it, and eſpecially upon any threatening of hemorrhagy, the plethora is to be removed, and the hemorrhagy to be obviated immediately by proper evacuations ; as blood-letting, purging, and iſſues, or by reſtoring ſuppreſſed evacuations, where this can be done.

CHAP. III.

OF THE HEMOPTYSIS, OR HEMORRHAGY FROM THE LUNGS.

SECT. I.

Of the PHENOMENA *and* CAUSE *of* HEMOPTYSIS.

DCCCXXX.

WHEN, after ſome affection of the breaſt, blood is thrown out from the mouth, and is brought out with more or leſs of coughing, there can be no doubt that it comes from the lungs; and this generally aſcertains the diſeaſe of which I am now to treat. But there are caſes in which the ſource of the blood ſpit out is uncertain; and therefore, ſome other conſiderations to be mentioned hereafter, are often neceſſary to aſcertain the exiſtence of an hemoptyſis.

DCCCXXXI.

The blood-veſſels of the lungs are more numerous than thoſe of any other part of the body of the ſame bulk. Theſe veſſels, of the largeſt ſize, as they ariſe from the heart, are more immediately than in any other part ſubdivided into veſſels of the ſmalleſt ſize; and theſe ſmall veſſels ſpread out near to the internal ſurfaces of the bronchial cavities, are ſituated in a looſe cellular texture, and covered by a tender membrane only: ſo that, conſidering how readily and frequently theſe veſſels are gorged with blood, we may underſtand why an hemorrhagy from them is, next to that of the noſe, the moſt frequent of any; and particularly, why any violent ſhock given to the whole body ſo readily occaſions an hemoptyſis.

DCCCXXXII.

An hemoptyſis may be occaſioned by external violence, at any period of life; and I have explained above (DCCLX.) why, in adult perſons, while the arterial plethora ſtill prevails in the ſyſtem, that is, from the age of ſixteen to that of five-and-thirty, an hemoptyſis may at any time be produced, merely by a plethoric ſtate of the lungs.

DCCCXXXIII.

But it has been alſo obſerved above, (DCCLXI.) that an hemoptyſis more frequently ariſes from a faulty proportion between the capacity of the veſſels of the lungs and that of thoſe of the reſt of the body. Accordingly it is often a hereditary diſeaſe, which implies a peculiar and faulty conformation. And the diſeaſe alſo happens eſpecially to perſons who diſcover the ſmaller capacity of their lungs, by the narrowneſs of their cheſt, and by the prominency of their ſhoulders; which laſt is a mark of their having been long liable to a difficult reſpiration.

DCCCXXXIV.

With theſe circumſtances alſo the diſeaſe happens eſpecially to perſons of a ſanguine temperament; in whom, particularly, the arterial plethora prevails. It happens likewiſe to perſons of a ſlender delicate make, of which a long neck is a mark; to perſons of much ſenſibility and irritability, and therefore of quick parts, whoſe bodies are generally of a delicate ſtructure; to perſons who have been formerly liable to frequent hemorrhagies of the noſe; to perſons who have ſuffered a ſuppreſſion of any hemorrhagy they had formerly been liable to, the moſt frequent inſtance of which is in females who have ſuffered a ſuppreſſion of their menſtrual flux; and, laſtly, to perſons who have ſuffered the amputation of any conſiderable limb.

DCCCXXXV.

In moſt of theſe caſes (DCCCXXXIV.) the diſeaſe happens eſpecially to perſons about the time of their coming to their full growth, or ſoon after it, and this for the reaſons fully ſet forth above.

DCCCXXXVI.

From all that has been ſaid from DCCCXXXI, to DCCCXXXV, the prediſponent cauſe of hemoptyſis will be ſufficiently underſtood, and the diſeaſe may happen from the mere circumſtance of the prediſponent cauſe ariſing to a conſiderable degree. In the prediſpoſed, however, it is often brought on by the recurrence of various occaſional and exciting cauſes. One of theſe, and perhaps a frequent one, is external heat; which, even in no great degree, will bring on the diſeaſe in ſpring, and the beginning of ſummer, while the heat rareſies the blood more than it relaxes the ſolids which had been before contracted by the cold of winter. Another exciting cauſe is a ſudden diminution of the weight of the atmoſphere, eſpecially when concurring with any effort in bodily exerciſe. The effort, too, alone, may often, in the prediſpoſed, be the exciting cauſe; and, more particulary, any violent exerciſe of reſpiration. In ſhort, in the prediſpoſed, any degree of external violence alſo may bring on the diſeaſe.

DCCCXXXVII.

Occaſioned by one or other of theſe cauſes (DCCCXXXVI,) the diſeaſe comes on with a ſenſe of weight and anxiety in the cheſt, ſome uneaſineſs in breathing, ſome pain of the breaſt or other parts of the thorax, and ſome ſenſe of heat under the ſternum; and very often, before the diſeaſe appears, a ſaltiſh taſte is perceived in the mouth.

DCCCXXXVIII.

Immediately before the appearance of blood, a degree of irritation is felt at the top of the larynx. To relieve this, a hawking is made, which brings up a little blood, of a florid colour, and ſomewhat frothy. The irritation returns; and, in the ſame manner, more blood of a like kind is brought up, with ſome noiſe in the wind-pipe, as of air paſſing through a fluid.

DCCCXXXIX.

This is commonly the manner in which the hemoptyſis begins; but ſometimes at the very firſt the blood comes up by coughing, or at leaſt ſomewhat of coughing accompanies the hawking juſt now mentioned.

DCCCXL.

The blood iſſuing is ſometimes at firſt in very ſmall quantity, and ſoon diſappears altogether: but, in other caſes, eſpecially when it repeatedly occurs, it is in greater quantity, and frequently continues to appear at times for ſeveral days together. It is ſometimes profuſe; but rarely in ſuch quantity as either by its exceſs, or by its ſudden ſuffocation, to prove immediately mortal. It commonly either ceaſes ſpontaneouſly, or is ſtopped by the remedies employed.

DCCCXLI.

When blood is thrown out from the mouh, it is not always eaſy to determine from what internal part it proceeds; whether from the internal ſurface of the mouth itſelf, from the fauces, or adjoining cavities of the noſe, from the ſtomach, or from the lungs. It is, however, very neceſſary to diſtinguiſh the different caſes; and, in moſt inſtances, it may be done by attending to the following conſiderations.

DCCCXLII.

When the blood ſpit out, proceeds from ſome part of the internal ſurface of the mouth itſelf, it comes out without any hawking or coughing; and generally, upon inſpection, the particular ſource of it becomes evident.

DCCCXLIII.

When blood proceeds from the fauces, or adjoining

ing cavities of the noſe, it may be brought out by hawking, and ſometimes by coughing, in the manner we have deſcribed in DCCCXXXVII, and DCCCXXXIX, ſo that, in this way, a doubt may ariſe concerning its real ſource. A patient often lays hold of theſe circumſtances to pleaſe himſelf with the opinion of its coming from the fauces, and he may be allowed to do ſo: but a phyſician cannot readily be deceived, if he conſider, that a bleeding from the fauces is more rare than one from the lungs; that the former ſeldom happens but to perſons who have been before liable either to an hemorrhagy of the noſe, or to ſome evident cauſe of eroſion; and, in moſt caſes, by looking into the fauces, the diſtillation of the blood, if it comes from thence, will be perceived.

DCCCXLIV.

When blood proceeds from the lungs, the manner in which it is brought up will commonly ſhow from whence it comes: but, independent of that, there are many circumſtances which may occur to point it out, ſuch as the period of life, the habit of body, and other marks of a prediſpoſition (DCCCXXXIII.—DCCCXXXV.) and together with theſe, the occaſional cauſes (DCCCXXXVI.) having been immediately before applied.

DCCCXLV.

When vomiting accompanies the throwing out of blood from the mouth, as vomiting and coughing often mutually excite each other; ſo they may be frequently joined, and render it doubtful whether the blood thrown out proceeds from the lungs or from the ſtomach. We may however generally decide, by conſidering, that blood does not ſo frequently proceed from the ſtomach as from the lungs: that blood proceeding from the ſtomach commonly appears in greater quantity, than when it proceeds from the lungs: that the blood proceeding from the lungs is uſually of a florid colour, and mixed with a frothy mucus only; whereas the blood from the ſtomach is commonly of a darker colour, more grumous, and mixed with the other contents of the ſtomach: that the coughing or vomiting, according as the one or the other firſt ariſes in the caſes in which they are afterwards joined may ſometimes point out the ſource of the blood: and, laſtly, that much may be learned from the circumſtances and ſymptoms which have preceded the hemorrhagy.

Thoſe which precede the hemoptyſis, enumerated in DCCCXXXVII. are moſt of them evident marks of an affection of the lungs. And, on the other hand, the hematemeſis, or iſſuing of blood from the ſtomach, has alſo its peculiar ſymptoms and circumſtances preceding it; as, for inſtance, ſome morbid affection of this organ, or at leaſt ſome pain, anxiety, and ſenſe of weight, referred diſtinctly to the region of the ſtomach. To all this may be added, that the vomiting of blood happens more frequently to females than to males; and to the former, in conſequence of a ſuppreſſion of their menſtrual flux: and, by attending to all theſe conſiderations (DCCCXLII.—DCCCLV.) the preſence of the hemoptyſis may commonly be ſufficiently aſcertained.

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SECT. II.

OF THE CURE OF HEMOPTYSIS.

DCCCXLVI.

THIS diſeaſe is ſometimes attended with little danger; as when it happens to females in conſequence of a ſuppreſſion of the menſes*; when, without any marks of a prediſpoſition, it ariſes from external violence; or when, from whatever cauſe ariſing, it leaves behind it no cough, dyſpnœa, or other affection of the lungs. Even in ſuch caſes, however, a danger may ariſe from too large a wound being made in the veſſels of the lungs; from a quantity of red blood being left to ſtagnate in the cavity of the bronchiæ; and particularly, from any determination of the blood being made into the veſſels of the lungs, which, by renewing the hemorrhagy, may have dangerous conſequences. In every inſtance therefore of hemoptyſis, the effuſion is to be moderated by the ſeveral means mentioned (DCCXCII. to DCCXCV.)

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* The author might have added, "and when no ſymptoms of phthiſis have preceded or accompanies the hemorrhage."

DCCCXLVII.

Theſe meaſures are eſpecially neceſſary when the hemoptyſis ariſes in conſequence of a prediſpoſition; and in all caſes where there is the appearance of a large effuſion, or where the hemorragy frequently returns, the effuſion is not only to be moderated, but to be entirely ſtopped, and the returns of it prevented by every means in our power. See DCCXCVII. and following*.

DCCCXLVIII.

To ſtop an hemoptyſis, or prevent the returns of it, two medicines have been frequently employed; neither of which I can approve of. Theſe are, chalybeates, and the Peruvian bark. As both of them contribute to increaſe the phlogiſtic diatheſis of the ſyſtem they can hardly be ſafe in any caſe of active hemorrhagy, and I have frequently found them hurtful.

DCCCXLIX.

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* The tincture of roſes has been frequently employed with ſucceſs in theſe caſes: alum, however, is the principal aſtringent. It may be given, either by itſelf in ſmall and often repeated doſes, or combined with terra Japonica. The following formula is very convenient.

℞. Alumin.
Terr. Japonic. ā ā ʒi.
Conſerv. Roſar. ℥ i.
M. f. Elect. cum ſyr. commun. q. ſ.

DCCCXLIX.

As the hemoptyſis which happens in conſequence of prediſpoſition, is always attended with a phlogiſtic diatheſis: and, as the bad conſequences of the diſeaſe are eſpecially to be apprehended from the continuance of that diatheſis; ſo this is to be induſtriouſly taken off by blood-letting, in greater or ſmaller quantity, and more or leſs frequently repeated, according as the ſymptoms ſhall direct. At the ſame time, cooling purgatives are to be employed, and every part of the antiplogiſtic regimen is to be ſtrictly enjoined. The refrigerants may alſo be adminiſtered; taking care, however, that the acids, and more eſpecially the nitre*, do not excite coughing.

DCCCL.

From what was obſerved in DCCXCV. it will appear, that bliſtering upon the breaſt or back may be a remedy of hemoptyſis, when it is preſent; and that iſſues

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The doſe ought to be proportioned to the exigency of the caſe: in general, the above preſcribed maſs may be divided into ten equal parts; one of which may be given every two hours, or in urgent caſes, every hour. In uſing this medicine, it will be neceſſary to keep the belly open; but for this purpoſe purgatives are ill adapted, as they carry off with them the medicine that is employed: clyſters are therefore preferable, and in order that they be the more effectual, they ought to be ſomewhat of a ſtimulating nature: as,

℞ Infus. Sennæ ʒvi.
Sal. Cathartic. Amar. ℥i.
Decoct. Hordei. ℥viii.
M.

Or,

℞. Pulp. Tamarind. ℥ii.
Crem. Tart. ℥ſs.
Coque in Aq. font. q. ſ. ad. colaturæ ℥xii.
Adde Mann. ℥ii.
M.

* Nitre ought to be cautiouſly uſed in all complaints of the lungs, on account of the irritation which it produces, and the ſubſequent cough which it excites.

in the ſame places may be uſeful in preventing the recurrence of it when it has ceaſed.

DCCCLI.

The avoiding of motion is generally a proper part of the antiphlogiſtic regimen; and, in the hemoptyſis, nothing is more neceſſary than avoding bodily exerciſe; but ſome kinds of geſtation, as ſailing*, and travelling in an eaſy carriage on ſmooth roads, have often proved a remedy.

DCCCLII.

Such is the treatment I can propoſe for the hemoptyſis, conſidered merely as an hemorrhagy: But when in ſpite of all our precautions, it continues to recur, it is often followed by an ulceration of the lungs, and a phthiſis pulmonalis. This, therefore, I muſt now proceed to conſider; but, as it ariſes alſo from other cauſes beſides the hemoptyſis, it muſt be treated of with a more general view†.

CHAP.

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[*] A ſea-voyage has often been preſcribed for hemoptyſis: it is, nevertheleſs, a very dangerous practice, on account of the violent agitation produced by the ſea-ſickneſs in the action of vomiting. The violence of the reachings in ſea-ſickneſs, eſpecially after the contents of the ſtomach are thoroughly evacuated, has been known to cauſe hemoptyſis, by a rupture of ſome conſiderable veſſel.—The hemorrhagy indeed, hence proceeding, is not an active hemorrhagy; but, nevertheleſs, in a phlogiſtic diatheſis, which prediſpoſes to an active hemorrhagy, we ought always to be cautious how we employ remedies, which, although they do not immediately increaſe the prediſpoſing diatheſis, produce the leaſt irritation, or give any violent ſhock in their action.

Speaking loud, ſinging, playing on wind-inſtruments, and whatever requires any exertion of the lungs ought carefully to be avoided.

[†] In the cure of the hemoptyſis, the patient's drink ought to be of the acidulous kind, or of the acidulous and aſtringent kinds conjoined. The vitriolic acid is therefore the moſt eligible, but it ought to be well diluted. A pleaſant drink may be compoſed of one part of the tincture of roſes, and four of cold water; or the tincture of roſes may be preſcribed with five times the quantity of water that

CHAP. IV.

OF THE PHTHISIS PULMONALIS, OR CONSUMPTION OF THE LUNGS.

SECT. I.

Of the PHENOMENA *and* CAUSE *of the* PHTHISIS PULMONALIS.

DCCCLIII.

THE Phthiſis Pulmonalis I would define to be, an expectoration of pus or purulent matter from the lungs, attended with a fever.

As this is the principal ſpecies of phthiſis, I ſhall frequently in this chapter employ the general term of phthiſis, though ſtrictly meaning the phithiſis pulmonalis.

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is ordered in the pharmacopœia. The acid of tartar diſſolved in twenty times it's weight of water, and ſweetened with a little ſyrup of roſes, is alſo a ſuitable drink. A decoction either of the freſh fruit of quinces, ſweetened with ſugar, or an infuſion of quince marmalade, is another excellent acid aſtringent. In addition to what has been ſaid, it may be proper to obſerve, that opium is admiſſible only in very few caſes of hemoptyſis; viz. when the hemoptyſis is the conſequence of coughing. Theſe caſes are very difficultly diſtinguiſhed. If the blood be thrown out into the lungs, a cough is excited for it's diſcharge, and then the hemoptyſis is the primary diſeaſe; in this caſe opium does more harm than good.—But if a cough ariſing from any other irritating cauſe, than extravaſated blood in the lungs ſhould by it's violence and long continuance, produce an hemoptyſis, then opium, joined with ſuch remedies as are ſuitable to remove the peculiar irritation, is the only medicine on which we can have any reliance; and in theſe caſes we muſt uſe it in large doſes, ſuch as forty or fifty drops of laudanum,

DCCCLIV.

I have met with ſome inſtances of an expectoration of purulent matter, continuing for many years, accompanied with very few ſymptoms of hectic, and at leaſt without any hectic exquiſitely formed: but in none of theſe inſtances were the perſons ſo entirely free from ſymptoms of hectic, as to form any exception to the general definition.

DCCCLV.

In every inſtance of an expectoration of pus, I preſume there is an ulceration of the lungs. The late Mr. Haen is the only author that I know of, who has advanced another opinion, and has ſuppoſed, that pus may be formed in the blood-veſſels, and be from thence poured into the bronchiæ. Admitting his fact, I have attempted an explanation of the appearance of pus without ulceration in CCCXLIX. but, after all, I cannot help ſuſpecting the accuracy of his obſervations; muſt entirely reject his explanation of them; muſt however allow, that we ſtill want facts to ſupport the explanation I have offered; and doubt much if it will apply to any caſe of phthiſis. For theſe reaſons I ſtill conclude, agreeably to the faith of all other diſſections, and the opinions of all phyſicians, that the ſymptoms mentioned in our definition depend always upon an ulceration formed in the lungs.

DCCCLVI.

It has ſometimes happened, that a catarrh was attended with an expectoration of a matter ſo much reſembling pus, that phyſicians have been often uncertain whether the diſeaſe was mucus or pus, and therefore whether the diſeaſe was a catarrh or a phthiſis. It is often of conſequence to determine theſe queſtions; and it appears to me that it may be generally done, with ſufficient certainty, from the following conſiderations, of which each particular is not always ſingly deciſive, but when they are taken together can hardly deceive us.

1. From the colour of the matter; as mucus is naturally tranſparent, and pus always opaque. When mucus becomes opaque, as it ſometimes does, it becomes white, yellow, or greeniſh; but the laſt mentioned colour is hardly ever ſo remarkable in mucus as in pus.

2. From the conſiſtence; as mucus is more viſcid and coherent, and pus leſs ſo, and may be more friable. When mucus is thrown into water, it is not readily diffuſed, but remains united in uniform and circular maſſes: but pus, in the ſame circumſtances, though not readily diffuſed, does not remain ſo uniformly united, and by a little agitation is broken into ragged fragments.

3. From the odour; which is ſeldom perceived in mucus, but frequently in pus. It has been propoſed to try the odour of the matter expectorated, by throwing it upon live coals: but in ſuch a trial both mucus and pus give out a diſagreeable ſmell, and it is not eaſy to diſtinguiſh between them.

4. From the ſpecific gravity compared with water; and, indeed, it is uſual for the mucus of the lungs to ſwim on the ſurface of water, and for pus to ſink in it. But in this we may ſometimes be deceived; as pus which has entangled a great deal of air may ſwim, and mucus that is free from air may ſink.

5. From the mixture which is diſcernable in the matter brought up: for if a yellow or greeniſh matter appears ſurrounded with a quantity of tranſparent or leſs opaque and leſs coloured matter, the more ſtrongly coloured matter may be generally conſidered as pus; as it is not eaſy to underſtand how one portion of the mucus of the lungs can be very conſiderably changed, while the reſt of it is very little ſo, or remains in its ordinary ſtate.

6. From the admixture of certain ſubſtances with the matter thrown out from the lungs. To this purpoſe we are informed by the experiments of the late

Mr. Charles Darwin: a. That the vitriolic acid diſſolves both mucus and pus, but moſt readily the former: That, if water be added to ſuch a ſolution of mucus, this is ſeparated, and either ſwims on the ſurface, or, divided into flocculi, is ſuſpended in the liquor; whereas, when water is added to a like ſolution of pus, this falls to the bottom, or by agitation is diffuſed ſo as to exhibit a uniformly turpid liquor. b. That a ſolution of the cauſtic fixed alkali, after ſome time, diſſolves mucus, and generally pus; and, if water be added to ſuch ſolutions, the pus is precipitated, but the mucus is not. From ſuch experiments it is ſuppoſed, that pus and mucus may be certainly diſtinguiſhed from each other.

7. From the expectoration's being attended with a hectic fever. A catarrh, or expectoration of mucus, is often attended with fever; but never, ſo far as I have obſerved, with ſuch a fever as I am preſently to deſcribe as a hectic. This, in my opinion, is the moſt certain mark of a purulent ſtate in ſome part of the body; and if others have thought differently, I am perſuaded that it has been owing to this, that, preſuming upon the mortal nature of a confirmed or purulent phthiſis, they have conſidered every caſe in which a recovery happened, as a catarrh only: but, that they may have been miſtaken in this, ſhall be ſhown hereafter.

DCCCLVII.

Having thus conſidered the firſt part of the character of the phthiſis pulmonalis as a mark of an ulceration of the lungs; and having juſt now ſaid, that the other part of the character, that is, the hectic fever, is a mark or indication of the ſame thing; it is proper now to conſider this here, as I had with that view omitted it before (LXXIV.)

DCCCLVIII.

A hectic fever has the form of a remittent, which has exacerbations twice every day. The firſt of theſe occurs about noon, ſometimes a little ſooner or later; and a ſlight remiſſion of it happens about five afternoon. This laſt is ſoon ſucceeded by another exacerbation, gradually increaſing till after midnight: but after two o'clock of the morning a remiſſion takes place, which becomes more and more conſiderable as the morning advances. The exacerbations are frequently attended with ſome degree of cold ſhivering; or at leaſt the patient is exceedingly ſenſible to any coolneſs of the air, ſeeks external heat, and often complains of a ſenſe of cold, when, to the thermometer, his ſkin is preternaturally warm. Of theſe exacerbations, that of the evening is always the moſt conſiderable.

DCCCLIX.

It has commonly been given as a part of the character of a hectic fever, that an exacerbation of it commonly appears after the taking food; and it is true that dinner, which is taken at noon or after it, does ſeem to occaſion ſome exacerbation. But this muſt not make us judge the mid-day exacerbation to be the effect of eating only; for I have often obſerved it to come on an hour before noon, and often ſome hours before dinner; which, in this country at preſent, is not taken till ſome time afternoon. It is indeed to be obſerved, that in almoſt every perſon, the taking food occaſions ſome degree of fever: but I am perſuaded this would not appear ſo conſiderable in a hectic, were it not that an exacerbation of fever is preſent from another cauſe; and accordingly, the taking food in the morning has hardly any ſenſible effect.

DCCCLX.

I have thus deſcribed the general form of hectic fever; but many circumſtances attending it, are further to be taken notice of.

The fever I have deſcribed does not commonly ſubſiſt long, till the evening exacerbations become attended with ſweatings; which continue to recur, and to prove more and more profuſe, through the whole courſe of the diſeaſe.

Almoſt from the firſt appearance of the hectic, the urine is high-coloured, and depoſites a copious branny red ſediment, which hardly ever falls cloſe to the bottom of the veſſel.

In the hectic, the appetite for food is generally leſs impaired than in any other kind of fever.

The thirſt is ſeldom conſiderable; the mouth is commonly moiſt; and as the diſeaſe advances, the tongue becomes free from fur, appears very clean; and in the advanced ſtages of the diſeaſe, the tongue and fauces appear to be ſomewhat inflamed, and become more or leſs covered with aphthæ.

As the diſeaſe advances, the red veſſels of the adnata of the eye diſappear, and the whole of the adnata becomes of a pearly white.

The face is commonly pale; but, during the exacerbations, a florid red, and an almoſt circumſcribed ſpot, appear on each cheeck.

For ſome time, in the courſe of a hectic, the belly is bound; but, in the advanced ſtages of it, a diarrhœa almoſt always comes on, and continues to recur frequently during the reſt of the diſeaſe, alternating in ſome meaſure with the ſweatings mentioned above.

The diſeaſe is always attended with a debility, which gradually increaſes during the courſe of it.

During the ſame courſe an emaciation takes place, and goes to a greater degree than in almoſt any other caſe.

The falling off of the hairs, and the adunque form of the nails, are alſo ſymptoms of the want of nouriſhment.

Towards the end of the diſeaſe, the feet are often affected with œdematous ſwellings.

The exacerbations of the fever are ſeldom attended with any headach, and ſcarcely ever with delirium. The ſenſes and judgment commonly remain entire to the very end of the diſeaſe; and the mind, for the moſt part, is confident and full of hope.

Some days before death, a delirium comes on, and commonly continues to the end.

DCCCLXI.

The hectic fever now deſcribed (DCCCLVIII, DCCCLIX.) as accompanying a purulent ſtate of the lungs, is perhaps the caſe in which it moſt frequently appears: but I have never ſeen it in any caſe, when there was not evidently, or when I had not ground to ſuppoſe, there was a permanent purulency or ulceration in ſome external or internal part. It was for this reaſon that in LXXIV. I concluded it to be a ſymptomatic fever only. Indeed, it appears to me to be always the effect of an acrimony abſorbed from abſceſſes or ulcers, although it is not equally the effect of every ſort of acrimony; for the ſcorbutic and cancerous kinds often ſubſiſt long in the body without producing a hectic. What is the preciſe ſtate of the acrimony producing this I cannot determine, but it ſeems to be chiefly that of a vitiated purulency.

DCCCLXII.

However this may be, it appears, that the hectic's depending in general upon an acrimony, explains its peculiar circumſtances. The febrile ſtate ſeems to be chiefly an exacerbation of that frequency of the pulſe, which occurs twice every day to perſons in health, and may be produced by acrimony alone. Theſe exacerbations, indeed, do not happen without the proper circumſtances of pyrexia; but the ſpaſm of the extreme veſſels in a hectic does not ſeem to be ſo conſiderable as in other fevers: and hence the ſtate of ſweat and urine which appears ſo early and ſo conſtantly in hectics. Upon the ſame ſuppoſition of an acrimony corrupting the fluids, and debilitating the moving powers, I think that moſt of the other ſymptoms may alſo be explained.

DCCCLXIII.

Having thus conſidered the characteriſtical ſymptoms and chief part of the proximate cauſe of the phthiſis pulmonalis, I proceed to obſerve, that an ulcer of the lungs, and its concomitant circumſtance of hectic fever, may ariſe from different previous affections of the lungs: all of which however may, in my opinion, be referred to five heads; that is, 1. To an hemoptyſis; 2. To a ſuppuration of the lungs in conſequence of pneumonia; 3. To catarrh; 4. To aſthma; or, 5. To a tubercle. Theſe ſeveral affections, as cauſes of ulcers, ſhall now be conſidered in the order mentioned.

DCCCLXIV.

It has been commonly ſuppoſed, that an hemoptyſis was naturally, and almoſt neceſſarily, followed by an ulcer of the lungs: but I will preſume to ſay, that, in general, this is a miſtake; for there have been many inſtances of hemoptyſis occaſioned by external violence, without being followed by any ulcer of the lungs; and there have alſo been many inſtances of hemoptyſis from an internal cauſe, without any conſequent ulceration. And this too has been the caſe, not only when the hemoptyſis happened to young perſons, and recurred for ſeveral times, but when it has often recurred during the courſe of a long life. It is indeed eaſy to conceive, that a rupture of the veſſels of the lungs like that of the veſſels of the noſe, may be often healed, as the ſurgeons ſpeak, by the firſt intention. It is probable therefore, that it is an hemoptyſis in particular circumſtances only, which is neceſſarily followed by an ulcer; but what theſe circumſtances are, it is difficult to determine. It is poſſible, that merely the degree of rupture, or frequently repeated rupture preventing the wound from healing by the firſt intention, may occaſion an ulcer; or it is poſſible that red blood effuſed, and not brought up entirely by coughing, may, by ſtagnating in the bronchiæ, become acrid, and erode the parts. Theſe however are but ſuppoſitions, not ſupported by any clear evidence. And, if we conſider that thoſe caſes of hemoptyſis which follow the prediſpoſition (DCCCXXXII.—DCCCXXXV.) are thoſe eſpecially which end in phthiſis, we ſhall be led to ſuſpect that there are ſome other circumſtances which concur here to determine the conſequence of hemoptyſis, as I ſhall hereafter endeavour to ſhow.

DCCCLXV.

Any ſuppoſition, however, which we can make with reſpect to the innocence of an hemoptyſis, muſt not ſuperſede the meaſures propoſed above for its cure; both becauſe we cannot certainly foreſee what may be the conſequence of ſuch an accident, and becauſe the meaſures above ſuggeſted are ſafe; for, upon every ſuppoſition, it is a diatheſis phlogiſtica that may urge on every bad conſequence to be apprehended.

DCCCLXVI.

The ſecond cauſe of an ulceration of the lungs, to be conſidered, is a ſuppuration formed in conſequence of pneumonia.

DCCCLXVII.

From the ſymptoms mentioned in DCCCLVIII—DCCCLIX. it may with reaſon be concluded, that an abſceſs, or, as it is called, a *vomica*, is formed in ſome part of the pleura, and moſt frequently in that portion of it inveſting the lungs. Here purulent matter frequently remains for ſome time, as if encloſed in a cyſt: but commonly it is not long before it comes to be either abſorbed, and transferred to ſome other part of the body; or that it breaks through into the cavity of the lungs, or into that of the thorax. In the latter cauſe of catarrh, is alſo frequently the exciting cauſe of the cough which proves the beginning of phthiſis.

DCCCLXXII.

It is to me, therefore, probable, that a catarrh is very ſeldom the foundation of phthiſis; but I would not poſitively aſſert that it never is ſo; for it is poſſible that the caſes of a more violent catarrh may have joined with them a pneumonic affection, which may end in a ſuppuration; or it may happen that a long continued catarrh, by the violent agitation of the lungs in coughing will produce ſome of thoſe tubercles which are preſently to be mentioned as the moſt frequent cauſe of phthiſis.

DCCCLXXIII.

It muſt be particularly obſerved here, that nothing ſaid in DCCCLXXII. ſhould allow us to neglect any appearence of catarrh, as is too frequently done; for it may be either the beginning of a phthiſis, which is miſtaken for a genuine catarrh, or that even as a catarrh continuing long, it may produce a phthiſis, as in DCCCLXXII.

DCCCLXXIV.

Many phyſicians have ſuppoſed an acrimony of the fluids eroding ſome of the veſſels of the lungs, to be a frequent cauſe of ulceration and phthiſis. But this appears to me to be a mere ſuppoſition: for in any of the inſtances of the production of phthiſis which I have ſeen, there was no evidence of any acrimony of the blood capable of eroding the veſſels. It is true, indeed, that in many caſes an acrimony ſubſiſting in ſome part of the fluids, is the cauſe of the diſeaſe; but it is at the ſame time probable, that this acrimony operates by producing tubercles, rather than by any direct eroſion.

DCCCLXXV.

It has been mentioned in DCCCLXIII. that an aſthma may be conſidered as one of the cauſes of phthiſis; and by aſthma I mean, that ſpecies of it which has been commonly named the Spaſmodic. This diſeaſe frequently ſubſiſts very long without producing any other, and may have its own peculiar fatal termination, as ſhall be explained hereafter. But I have ſeen it frequently end in phthiſis; and in ſuch caſes I ſuppoſe it to operate in the manner above alledged of catarrh, that is, by producing tubercles, and their conſequences, which ſhall be preſently mentioned.

DCCCLXXVI.

I come now to conſider the fifth head of the cauſe of phthiſis, and which I apprehend to be the moſt frequent of any. This I have ſaid, in general, to be tubercles; by which terms are meant, certain ſmall tumours, which have the appearance of indurated glands. Diſſections have frequently ſhown ſuch tubercles formed in the lungs; and although at firſt indolent, yet at length they become inflamed, and are thereby changed into little abſceſſes, or vomicæ, which breaking, and pouring their matter into the bronchiæ, give a purulent expectoration, and thus lay the foundation of phthiſis.

DCCCLXXVII.

Though the matter expectorated upon theſe occaſions has the appearance of pus, it is ſeldom that of a laudable kind; and, as the ulcers do not readily heal, but are attended with a hectic fever, for the moſt part ending fatally, I preſume that the matter of the ulcers is imbued with a peculiarly obnoxious acrimony, which prevents their healing, and produces a phthiſis in all its circumſtances, as mentioned above.

DCCCLXXVIII.

It is very probable that the acrimony which thus diſcovers itſelf in the ulcers, exiſted before, and produced the tubercles themſelves; and it is to this acrimony that we muſt trace up the cauſe of the phthiſis following theſe tubercles. This acrimony is probably, in different caſes, of different kinds ; and it will not be eaſy to determine its varieties : but to a certain length I ſhall attempt it.

DCCCLXXIX.

In one caſe, and that, too, a very frequent one, of phthiſis; it appears, that the noxious acrimony is of the ſame kind with that which prevails in the ſcrophula. This may be concluded from obſerving, that a phthiſis, at its uſual periods, frequently attacks perſons born of ſcrophulous parents ; that is, of parents who had been affected with ſcorphula in their younger years : that very often, when the phthiſis appears, there occur at the ſame time ſome lymphatic tumours in the internal parts ; and very often I have found the tabes meſenterica, which is a ſcrophulous affection, joined with the phthiſis pulmonalis. To all this I would add, that, even when no ſcrophulous affection has either manifeſtly preceded or accompanied a phthiſis, this laſt however moſt commonly affects perſons of a habit reſembling the ſcrophulous ; that is, perſons of a ſanguine, or of a ſanguineo-melancholic temperament, who have very fine ſkins, roſy complexions, large veins, ſoft fleſh, and thick upper lip : and further, that in ſuch perſons the phthiſis comes on in the ſame manner that it does in perſons having tubercles, as ſhall be immediately explained.

DCCCLXXX.

Another ſpecies of acrimony producing tubercles of the lungs, and thereby phthiſis, may be ſaid to be the exanthematic. It is well known, that the ſmall-pox ſometimes, and more frequently meaſles, lay the foundation of phthiſis. It is probable alſo, that other exanthemata have the ſame effect ; and from the phenomena of the diſeaſe, and the diſſections of perſons who have died of it, it is probable, that all the exanthemata may occaſion a phthiſis, by affording a matter which in the firſt place produces tubercles.

DCCCLXXXI.

Another acrimony, which ſeems ſometimes to produce phthiſis, is the ſiphylitic; but whether ſuch an acrimony produces phthiſis in any other perſons than the previouſly diſpoſed, does not appear to me certain.

DCCCLXXXII.

What other ſpecies of acrimony, ſuch as from ſcurvy, from pus abſorbed from other parts of the body, from ſuppreſſed eruptions, or from other ſources, may alſo produce tubercles and phthiſis, I cannot now decide, but muſt leave to be determined by thoſe who have had experience of ſuch caſes.

DCCCLXXXIII.

There is one peculiar caſe of phthiſis, which from my own experience I can take notice of. This is the caſe of phthiſis from a calcareous matter formedin the lungs, and coughed up, frequently with a little blood, ſometimes with mucus only, and ſometimes with pus. How this matter is generated, or in what preciſe part of the lungs it is ſeated, I acknowledge myſelf ignorant. In three caſes of this kind which have occurred to me, there was at the ſame time no appearance of ſtony or earthy concretions in any other part of the body. In one of theſe caſes, an exquiſitely formed phthiſis came on, and proved mortal: While in the other two, the ſymptoms of phthiſis were never fully formed; and after ſome time, merely by a milk diet and avoiding irritation, the patients entirely recovered.

DCCCLXXXIV.

Another foundation for phthiſis, analogous, as I judge, to that of tubercles, is that which occurs to certain artificers whoſe employments keep them almoſt conſtantly expoſed to duſt; ſuch as ſtone-cutters, millers, flax-dreſſers, and ſome others. I have not obſerved in this country many inſtances of phthiſis which could be referred to this cauſe; but, from RAMAZZINI, MORGAGNI, and ſome other writers, we muſt conclude ſuch caſes to be more frequent in the ſouthern parts of Europe.

DCCCLXXXV.

Beſides theſe now mentioned, there are probably ſome other cauſes producing tubercles, which have not yet been aſcertained by obſervations; and it is likely, that in the ſtate of tubercles there is a variety not yet accounted for; but all this muſt be left to future obſervation and inquiry.

DCCCLXXXVI.

It has been frequently ſuppoſed by phyſicians, that the phthiſis is a contagious diſeaſe; and I dare not aſſert that it never is ſuch: but in many hundred inſtances of the diſeaſe which I have ſeen, there has been hardly one which to me could appear to have ariſen from contagion. It is poſſible, that in warmer climates the effects of contagion may be more diſcernible.

After having ſaid that a phthiſis ariſes from tubercles more frequently than from any other cauſe, and after having attempted to aſſign the variety of theſe, I now proceed to mention the peculiar circumſtances and ſymptoms which uſually accompany the coming on of the diſeaſe from tubercles.

DCCCLXXXVII.

A tuberculous and purulent ſtate of the lungs has been obſerved in very young children, and in ſome others at ſeveral different periods before the age of puberty and full growth; but inſtances of this kind are rare: and the attack of phthiſis, which we have reaſon to impute to tubercles, uſually happens at the ſame period which I have aſſigned for the coming on of the hemoptyſis.

DCCCLXXXVIII.

The phthiſis from tubercles does alſo generally affect the ſame habits as the hemoptyſis, that is, perſons of a ſlender make, long necks, narrow cheſts, and prominent ſhoulders: but very frequently the perſons liable to tubercles have leſs of a florid countenance, and of the other marks of an exquiſitely ſanguine temperament, than the perſons liable to hemoptyſis.

DCCCLXXXIX.

This diſeaſe, ariſing from the tubercles, uſually commences with a ſlight and ſhort cough, which becomes habitual, is often little remarked by thoſe affected, and ſometimes ſo little as to be abſolutely denied by them. At the ſame time their breathing becomes eaſily hurried by any bodily motion, their body grows leaner, and they become languid and indolent. This ſtate ſometimes continues for a year, or even for two years, without the perſons making any complaint of it, excepting only that they are affected by cold more readily than uſual, which frequently increaſes their cough, and produces ſome catarrh. This, again, however, is ſometimes relieved; is ſuppoſed to have ariſen from cold alone; and therefore gives no alarm either to the patient or to his friends, nor leads them to take any precautions.

DCCCXC.

Upon one or other of theſe occaſions of catching cold, as we commonly ſpeak, the cough becomes more conſiderable; is particularly troubleſome upon the patient's lying down at night, and in this ſtate continues longer than is uſual in the caſe of a ſimple catarrh. This is more eſpecially to call for attention, if the increaſe and continuance of cough come on during the ſummer ſeaſon.

DCCCXCI.

The cough which comes on as in DCCCLXXXIX. is very often for a long time without any expectoration; but when, from repeatedly catching cold, it becomes more conſtant, it is then at the ſame time attended with ſome expectoration, which is moſt conſiderable in the mornings. The matter of this expectoration becomes by degrees more copious, more viſcid, and more opaque; at length of a yellow or greeniſh colour, and of a purulent appearance. The whole of the matter, however, is not always at once entirely changed in this manner; but, while one part of it retains the uſual form of mucus, another ſuffers the changes now deſcribed.

DCCCXCII.

When the cough increaſes, and continues very frequent through the night, and when the matter expectorated undergoes the changes I have mentioned, the breathing at the ſame time becomes more difficult, and the emaciation and weakneſs go on alſo increaſing. In the female ſex, as the diſeaſe advances, and ſometimes early in its progreſs, the menſes ceaſe to flow; and this circumſtance is to be conſidered as commonly the effect, although the ſex themſelves are ready to believe it the ſole cauſe of the diſeaſe.

DCCCXCIII.

When the cough comes on as in DCCCLXXXIX. the pulſe is often natural, and for ſome time after continues to be ſo; but the ſymptoms have ſeldom ſubſiſted long before the pulſe becomes frequent, and ſometimes to a conſiderable degree, without much of the other ſymptoms of fever. At length, however, evening exacerbations become remarkable; and by degrees the fever aſſumes the exquiſite form of hectic, as deſcribed in DCCCXLVIII—DCCCLX.

DCCCXCIV.

It is ſeldom that the cough, expectoration, and fever, go on increaſing, in the manner now deſcribed. without ſome pain being felt in ſome part of the thorax. It is uſually, and moſt frequently felt at firſt under the ſternum, and that eſpecially, or almoſt only, upon occaſion of coughing: but very often, and that too early, in the courſe of the diſeaſe, a pain is felt on one ſide, ſometimes very conſtantly, and ſo as to prevent the perſon from lying eaſily upon that ſide; but at other times the pain is felt only upon a full inſpiration, or upon coughing. Even when no pain is felt, it generally happens that phthiſical perſons cannot lie eaſily on ſome one of their ſides, without having their difficulty of breathing increaſed, and their cough excited.

DCCCXCV.

The phthiſis begins, and ſometimes proceeds to its fatal iſſue, in the manner deſcribed from DCCCLXXXIX, to DCCCXCV. without any appearance of hemoptyſis. Such caſes are indeed rare; but it is very common for the diſeaſe to advance far, and even to an evident purulency and hectic ſtate, without any appearance of blood in the ſpitting: ſo that it may be affirmed, the diſeaſe is frequently not founded in hemoptyſis. At the ſame time, we muſt allow, not only that it ſometimes begins with an hemoptyſis, as is ſaid in DCCCLXIV. but further, that it ſeldom happens that in the progreſs of the diſeaſe more or leſs of an hemoptyſis does not appear. Some degree of blood-ſpitting does, indeed, appear ſometimes in the ſtate mentioned (DCCCLXXXIX, DCCCXCIII.) but more commonly in the more advanced ſtages of the diſeaſe only, and particularly upon the firſt appearance of purulency. However this may be, it is ſeldom, in the phthiſis from tubercles, that the hemoptyſis is conſiderable, or requires any remedies different from thoſe which are otherwiſe neceſſary for the ſtate of the tubercles.

DCCCXCVI.

I have now deſcribed a ſucceſſion of ſymptoms which, in different caſes, occupy more or leſs time. In this climate they very often take up ſome years, the ſymptoms appearing eſpecially in the winter and ſpring, commonly becoming eaſier, and ſometimes almoſt diſappearing, during the ſummer: but returning again in winter, they at length, after two or three years, prove fatal, towards the end of ſpring or the beginning of ſummer.

DCCCXCVII.

In this diſeaſe, the prognoſis is for the moſt part unfavourable. Of thoſe affected with it, the greater number die; but there are alſo many of them who recover entirely, after having been in very unpromiſing circumſtances. What are, however, the circumſtances more certainly determining to a happy or to a fatal event, I have not yet been able to aſcertain.

DCCCXCVIII.

The following aphoriſms are the reſult of my obſervations.

A phthiſis pulmonalis from hemoptyſis, is more frequently recovered than one from tubercles.

An hemoptyſis not only is not always followed by a phthiſis, as we have ſaid above 864; but even when followed by an ulceration, the ulceration is ſometimes attended with little of hectic, and frequently admits of being ſoon healed. Even when hemoptyſis and ulceration have happened to be repeated, there are inſtances of perſons recovering entirely after ſeveral ſuch repetitions.

A phthiſis from a ſuppuration in conſequence of pneumonic inflammation, is that which moſt rarely occurs in this climate; and a phthiſis does not always follow ſuch ſuppuration, when the abſceſs formed ſoon breaks and diſcharges a laudable pus; but, if the abſceſs continues long ſhut up, and till after a conſiderable degree of hectic has been formed, a phthiſis is then produced, equally dangerous, as that from other cauſes.

A phthiſis from tubercles has, I think, been recovered: but it is of all others the moſt dangerous; and, when ariſing from a hereditary taint almoſt certainly fatal.

The danger of a phthiſis, from whatever cauſe it may have ariſen, is moſt certainly to be judged of by the degree to which the hectic and its conſequences have arrived. From a certain degree of emaciation, debility, profuſe ſweating, and diarrhœa, no perſon recovers.

A mania coming on, has been found to remove all the ſymptoms, and ſometimes has entirely cured the diſeaſe; but, in other caſes, upon the going off of the mania the phthiſis has recurred, and proved fatal.

The pregnancy of women has often retarded the progreſs of a phthiſis; but commonly it is only till after delivery, when the ſymptoms of phthiſis return with violence, and ſoon prove fatal.

SECT. II.

OF THE CURE OF PHTHISIS.

DCCCXCIX.

From what has been juſt now ſaid, it will readily appear, that the cure of the phthiſis pulmonalis muſt be exceedingly difficult; and that even the utmoſt care and attention in the employment of remedies, have ſeldom ſucceeded. It may be doubtful whether this failure is to be imputed to the imperfection of our art, or to the abſolutely incurable nature of the diſeaſe. I am extremely averſe in any caſe to admit of the latter ſuppoſition, and can always readily allow of the former; but, in the mean time, muſt mention here, what has been attempted towards either curing or moderating the violence of the diſeaſe.

DCCCC.

It muſt be obvious, that according to the different circumſtances of this diſeaſe, the method of cure muſt be different. Our firſt attention ſhould be employed in watching the approach of the diſeaſe, and preventing its proceeding to an incurable ſtate.

In all perſons of a phthiſical habit, and eſpecially in thoſe born of phthiſical parents, the ſlighteſt ſymptoms of the approach of phthiſis, at the phthiſical period of life, ought to be attended to*.

DCCCCI.

When an hemoptyſis occurs, though it be not always followed with ulceration and phthiſis, theſe however are always to be apprehended; and every precaution is to be taken againſt them. This is eſpecially to be done by employing every means of moderating the hemorrhagy, and of preventing its return, directed in DCCCXCII. *et ſeq.* and theſe precautions ought to be continued for ſeveral years after the occurrence of the hemoptyſis.

DCCCCII.

The phthiſis which follows a ſuppuration from pneumonic inflammation, can only be prevented with certainty, by obtaining a reſolution of ſuch inflammation. What may be attempted towards the cure of an abſceſs and ulcer which have taken place, I ſhall ſpeak of hereafter.

DCCCCIII.

I have ſaid, it is doubtful if a genuine catarrh ever produces a phthiſis; but have allowed that it poſſibly may: and both upon this account, and upon account of the ambiguity which may ariſe, whether the appearing catarrh be a primary diſeaſe, or the effect of a tubercle, I conſider it as of conſequence to cure a catarrh as ſoon as poſſible after its firſt appearance. More eſpecially when it ſhall linger, and continue for ſome time, or ſhall, after ſome intermiſſion, frequently return, the cure of it ſhould be diligently attempted. The meaſures requiſite for this purpoſe ſhall be mentioned afterwards, when we come to treat of catarrh as a primary diſeaſe; but, in the mean time, the means neceſſary for preventing its producing a phthiſis ſhall be mentioned immediately, as they are the ſame with thoſe I ſhall point out as neceſſary for preventing a phthiſis from tubercles.

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* This early attention to the firſt ſymptom of the diſeaſe is of the utmoſt conſequence, for it is only in the early ſtage that any remedies can be employed with ſucceſs, as experience has ſufficiently taught, ſee art. 906. et. ſeq.

DCCCCIV.

The preventing of a phthiſis from aſthma muſt be, by curing, if poſſible, the aſthma, or at leaſt by moderating it as much as may be done: and as it is probable that aſthma occaſions phthiſis, by producing tubercles, the meaſures neceſſary for preventing phthiſis from aſthma, will be the ſame with thoſe neceſſary in the caſe of tubercles, which I am now about to mention.

DCCCCV.

I conſider tubercles as by much the moſt frequent cauſe of phthiſis; and even in many caſes where this ſeems to depend upon hemoptyſis, catarrh, or aſthma, it does however truly ariſe from tubercles. It is upon this ſubject, therefore, that I ſhall have occaſion to treat of the meaſures moſt commonly requiſite for curing phthiſis.

DCCCCVI.

When, in a perſon born of phthiſical parents, of a phthiſical habit, at the phthiſical period of life, the ſymptoms (DCCCLXXXIX.) in the ſpring, or the beginning of ſummer, ſhall appear in the ſlighteſt degree, we may preſume that a tubercle, or tubercles, either have been formed, or are forming in the lungs; and therefore, that every means we can deviſe for preventing their formation, or for procuring their reſolution, ſhould be employed immediately, even although the patient himſelf ſhould overlook or neglect the ſymptoms, as imputing them to accidental cold.

DCCCCVII.

This is certainly the general indication; but how it may be executed, cannot readily ſay. I do not know that, at any time, phyſicians have propoſed any remedy capable of preventing the formation of the tubercles, or of reſolving them when formed. The analogy of ſcrophula, gives no aſſiſtance in this matter. In ſcrophula the remedies that are ſeemingly of moſt power, are, ſea-water, or certain mineral waters; but theſe have generally proved hurtful in the caſe of tubercles of the lungs. I have known ſeveral inſtances of mercury very fully employed for certain diſeaſes, in perſons who were ſuppoſed at the time to have tubercles formed, or forming, in their lungs; but though the mercury proved cure for thoſe other diſeaſes, it was of no ſervice in preventing phthiſis, and in ſome caſes ſeemed to hurry it on.

DCCCCVIII.

Such appears to me to be the preſent ſtate of our art, with reſpect to the cure of tubercles; but I do not deſpair of a remedy for the purpoſe being found hereafter. In the mean time, all that at preſent ſeems to be within the reach of our art, is to take the meaſures proper for avoiding the inflammation of tubercles. It is probable that tubercles may ſubſiſt long without producing any diſorder; and I am diſpoſed to think, that nature ſometimes reſolves and diſcuſſes tubercles which have been formed; and that nature does this only when the tubercles remain in an uninflamed ſtate; and therefore, that the meaſures neceſſary to be taken, are chiefly thoſe for avoiding the inflammation of the tubercles.

DCCCCIX.

The inflammation of a tubercle of the lungs is to be avoided upon the general plan of avoiding inflammation, by blood-letting, and by an antiphlogiſtic regimen;

gimen; the chief part of which, in this caſe, is the uſe of a low diet. This ſuppoſes a total abſtinence from animal food, and the uſing of vegetable food almoſt alone: but it has been found, that it is not neceſſary for the patient to be confined to vegetables of the weakeſt nouriſhment, it being ſufficient that the farinacea be employed, and together with theſe, milk.

DCCCCX.

Milk has been generally conſidered as the chief remedy in the phthiſis, and in the caſe of every tendency to it; but whether from its peculiar qualities, or from its being of a lower quality, with reſpect to nouriſhment, than any food entirely animal, is not certainly determined. The choice and adminiſtration of milk will be properly directed, by conſidering the nature of the milk of the ſeveral animals from which it may be taken, and the particular ſtate of the patient with reſpect to the period and circumſtances of the diſeaſe, and to the habits of his ſtomach with reſpect to milk.

DCCCCXI.

A ſecond means of preventing the inflammation of the tubercles of the lungs, is by avoiding any particular irritation of the affected part, which may ariſe from any violent exerciſe of reſpiration; from any conſiderable degree of bodily exerciſe; from any poſition of the body, which ſtraitens the capacity of the thorax; and laſtly, from cold applied to the ſurface of the body, which determines the blood in greater quantity to the internal parts, and particularly to the lungs.

DCCCCXII.

From the laſt-mentioned conſideration, the application of cold in general, and therefore the winter-ſeaſon, in cold climates, as diminiſhing the cutaneous perſpiration, is to be avoided; but more particularly, that application of cold is to be ſhunned that may ſuppreſs perſpiration, to the degree of occaſioning a catarrh, which conſiſts in an inflammatory determination to the lungs, and may therefore moſt certainly produce an inflammation of the tubercles there.

By conſidering, that the avoiding heat is a part of the antiphlogiſtic regimen above recommended, and by comparing this with what has been juſt now ſaid reſpecting the avoiding cold, the proper choice of climates and ſeaſons for phthiſical patients will be readily underſtood.

DCCCCXIII.

A third means of avoiding the inflammation of the tubercles of the lungs conſiſts, in diminiſhing the determination of the blood to the lungs, by ſupporting and increaſing the determination to the ſurface of the body; which is to be chiefly and moſt ſafely done by warm clothing*, and the frequent uſe of the exerciſes of geſtation.

DCCCCXIV.

Every mode of geſtation has been found of uſe in the phthiſical caſes; but riding on horſeback, as being accompanied with a great deal of bodily exerciſe, is leſs ſafe in perſons liable to an hemoptyſis. Travelling in a carriage unleſs upon very ſmooth roads may alſo be of doubtful effect; and all the modes of geſtation that are employed on land, may fall ſhort of the effects expected from them, becauſe they cannot be rendered ſufficiently conſtant; and therefore it is that ſailing, of all other modes of geſtation, is the moſt effectual in pneumonic caſes, as being both the ſmootheſt and moſt conſtant.

It has been imagined, that ſome benefit is derived from the ſtate of the atmoſphere upon the ſea; but I cannot find that any impregnation of this which can be ſuppoſed to take place, can be of ſervice to phthiſical perſons. It is however probable, that frequently ſome benefit may be derived from the more moderate temperature and greater purity of the air upon the ſea.

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* This is a moſt eſſential part in the cure of phthiſis, and many other diſeaſes prevalent in cold climates. The warm clothing that is moſt effectual is flannel ſhirts next the ſkin. It feels a little diſagreeable at firſt to a perſon unaccuſtomed to it; but the great relief it affords, and the comfortable ſenſation it produces, are ſo ſtrong inducements for continuing it's uſe, that few people who have once experienced it's beneficial effects, have any deſire to relinquiſh it.

DCCCCXV.

In order to take off any inflammatory determination of the blood into the veſſels of the lungs, bliſters applied to ſome part of the thorax may often be of ſervice; and for the ſame purpoſe, as well as for moderating the general inflammatory ſtate of the body, iſſues of various kinds may be employed with advantage.

DCCCCXVI.

The ſeveral meaſures to be purſued in the caſe of what is properly called an Incipient Phthiſis, have now been mentioned; but they have ſeldom been employed in ſuch caſes in due time, and have therefore, perhaps, ſeldom proved effectual. It has more commonly happened, that after ſome time, an inflammation has come upon the tubercles, and an abſceſs has been formed, which opening into the cavity of the bronchiæ, has produced an ulcer, and a confirmed phthiſis.

DCCCCXVII.

In this ſtate of matters, ſome new indications different from the former may be ſuppoſed to ariſe, and indications for preventing abſorption, for preventing the effects of the abſorbed matter upon the blood, and for healing the ulcer, have been actually propoſed. I cannot find, however, that any of the means propoſed for executing theſe indications, are either probable or have proved effectual. If, upon ſome occaſions, they have appeared to be uſeful, it has been probably by anſwering ſome other intention.

While no antidote againſt the poiſon which eſpecially operates here, ſeems to have been as yet found out, it appears to me, that too great a degree of inflammation has a great ſhare in preventing the healing of the ulcers which occurs; and ſuch inflammation is certainly what has a great ſhare in urging on its fatal conſequences. The only practice, therefore, which I can venture to propoſe, is the ſame in the ulcerated as in the crude ſtate of a tubercle; that is, the employment of means for moderating inflammation, which have been already mentioned (DCCCCIX. *et ſeq.*)

DCCCCXVIII.

The balſamics whether natural or artificial, which have been ſo commonly adviſed in caſes of phthiſis, appear to me to have been propoſed upon no ſufficient grounds, and to have proved commonly hurtful. The reſinous and acrid ſubſtance of myrrh, lately recommended, has not appeared to me to be of any ſervice, and in ſome caſes to have proved hurtful*.

DCCCCXIX.

Mercury, ſo often uſeful in healing ulcers, has been ſpeciouſly enough propoſed in this diſeaſe; but whether that it be not adapted to the particular nature of the ulcers of the lungs occurring in phthiſis, or that it proved hurtful becauſe it cannot have effect, without exciting ſuch an inflammatory ſtate of the whole ſyſtem, as, in a hectic ſtate, muſt prove very hurtful, I cannot determine. Upon many trials which I have ſeen made, it has proved of no ſervice, and commonly has appeared to be manifeſtly pernicious.

DCCCCXX.

The Peruvian bark has been recommended for ſeveral purpoſes in phthiſical caſes; and is ſaid, upon ſome occaſions to have been uſeful; but I have ſeldom found it to be ſo; and as by its tonic power it increaſes the phlogiſtic diatheſis of the ſyſtem, I have frequently found it hurtful. In ſome caſes, where the morning remiſſions of the fever were conſiderable, and the noon exacerbations well marked, I have obſerved the Peruvian bark given in large quantities, have the effect of ſtopping theſe exacerbations, and at the ſame time of relieving the whole of the phthiſical ſymptoms: but in the caſes in which I obſerved this, the fever ſhowed a conſtant tendency to recur; and at length the phthiſical ſymptoms alſo returned, and proved quickly fatal.

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* From the preceding account of the diſeaſe, it is ſufficiently evident that all acrid and hot ſubſtances muſt be hurtful in phthiſis. The balſamics have been long recommended in theſe caſes, even by the beſt authorities, but on what principle is not eaſy to determine.

DCCCCXXI.

Acids of all kinds, as antiſeptic and refrigerant, are uſeful in caſes of phthiſis; but the native acid of vegetables* is more uſeful than the foſſil acids, as it can be given in much larger quantities, and may alſo be given more ſafely than vinegar, being leſs liable to excite coughing.

DCCCCXXII.

Though our art can do ſo little towards the cure of this diſeaſe, we muſt, however, palliate the uneaſy ſymptoms of it as well as we can. The ſymptoms eſpecially urgent, are the cough and diarrhœa. The cough may be in ſome meaſure relieved by demulcents, (DCCCLXXIII.) but the relief obtained by theſe is imperfect and tranſitory, and very often the ſtomach is diſturbed by the quantity of oily, mucilaginous, and ſweet ſubſtances, which are on theſe occaſions taken into it.

DCCCCXXIII.

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* The acid fruits, acid of tartar, acid of ſorrel, and other plants yielding an acid, but not an acrid juice. The eating of oranges is therefore ſerviceable.

DCCCCXXIII.

The only certain means of relieving the cough, is by employing opiates. Theſe, indeed, certainly increaſe the phlogiſtic diatheſis of the ſyſtem; but commonly they do not ſo much harm in this way, as they do ſervice by quieting the cough, and giving ſleep. They are ſuppoſed to be hurtful by checking expectoration: but they do it for a ſhort time only; and, after a ſound ſleep, the expectoration in the morning is more eaſy than uſual. In the advanced ſtate of the diſeaſe, opiates ſeem to increaſe the ſweatings that occur; but they compenſate this, by the eaſe they afford in a diſeaſe which cannot be cured.

DCCCCXXIV.

The diarrhœa which happens in the advanced ſtate of this diſeaſe, is to be palliated by moderate aſtringents, mucilages, and opiates.

Rhubarb, ſo commonly preſcribed in every diarrhœa, and all other purgatives, are extremely dangerous in the colliquative diarrhœa of hectics.

Freſh ſubacid fruits, ſuppoſed to be always laxative, are often in the diarrhœa of hectics, by their antiſeptic quality, very uſeful.

CHAP. V.

OF THE HEMORRHOIS, OR, OF THE HEMORRHOIDAL SWELLING AND FLUX.

SECT. I.

Of the PHENOMENA *and* CAUSES *of the* HEMORRHOIS.

DCCCCXXV.

A DISCHARGE of blood from ſmall tumours on the verge of the anus, is the ſymptom which generally conſtitutes the Hemorrhois; or, as it is vulgarly called, the Hemorrhoidal Flux. But a diſcharge of blood from within the anus, when the blood is of a florid colour, ſhowing it to have come from no great diſtance, is alſo conſidered as the ſame diſeaſe; and phyſicians have agreed in making two caſes or varieties of it, under the names of External and Internal Hemorrhois.

DCCCCXXVI.

In both caſes it is ſuppoſed that the flow of blood is from tumours previouſly formed, which are named Hemorrhoids, or Piles; and it frequently happens, that the tumours exiſt without any diſcharge of blood; in which caſe, however, they are ſuppoſed to be a part of the ſame diſeaſe, and are named Hemorrhoides Cæcæ, or Blind Piles.

DCCCCXXVII.

Theſe tumours, as they appear without the anus, are ſometimes ſeparate, round, and prominent, on the verge of the anus; but frequently the tumour is only one tumid ring, forming, as it were, the anus puſhed without the body.

DCCCCXXVIII.

Theſe tumours, and the diſcharge of blood from them, ſometimes come on as an affection purely topical, and without any previous diſorder in other parts of the body: but it frequently happens, even before the tumours are formed, and more eſpecially before the blood flows, that various diſorders are felt in different parts of the body, as headach, vertigo, ſtupor, difficulty of breathing, ſickneſs, colic-pains, pain of the back and loins; and often, together with more or fewer of theſe ſymptoms, there occurs a conſiderable degree of pyrexia.

The coming on of the diſeaſe with theſe ſymptoms, is uſually attended with a ſenſe of fullneſs, heat, itching, and pain in and about the anus.

Sometimes the diſeaſe is preceded by a diſcharge of ſerous matter from the anus: and ſometimes this ſerous diſcharge, accompanied with ſome ſwelling, ſeems to be in place of the diſcharge of blood, and to relieve thoſe diſorders of the ſyſtem which we have mentioned. This ſerous diſcharge, therefore, has been named the Hemorrhois Alba,

DCCCCXXIX.

In the hemorrhois, the quantity of blood diſcharged is different upon different occaſions. Sometimes the blood flows only upon the perſons going to ſtool; and commonly, in larger or leſſer quantity, follows the diſcharge of the fæces. In other caſes, the blood flows without any diſcharge of fæces; and then, generally, it is after having been preceded by the diſorders abovementioned, when it is alſo commonly in larger quantity. This diſcharge of blood is often very conſiderable; and, by the repetition, it is often ſo great, as we could hardly ſuppoſe the body to bear but with the hazard of life. Indeed, though rarely, it has been ſo great as to prove ſuddenly fatal. Theſe conſiderable diſcharges occur eſpecially to perſons who have been frequently liable to the diſeaſe. They often induce great debility; and frequently a leucophlegmatia, or dropſy, which proves fatal.

The tumours and diſcharges of blood in this diſeaſe, often recur at exactly ſtated periods.

DCCCCXXX.

It often happens, in the decline of life, that the hemorrhoidal flux, formerly frequent, ceaſes to flow; and, upon that event, it generally happens that the perſons are affected with apoplexy or palſy.

DCCCCXXXI.

Sometimes hemorrhoidal tumours are affected with conſiderable inflammation; which, ending in ſuppuration, gives occaſion to the formation of fiſtulous ulcers in thoſe parts.

DCCCCXXXII.

The hemorrhoidal tumours have been often conſidered as varicous tumours, or dilatations of veins; and it is true, that in ſome caſes varicous dilatations have appeared upon diſſection. Theſe, however, do not always appear; and I preſume it is not the ordinary caſe, but that the tumours are formed by an effuſion of blood into the cellular texture of the inteſtine near to its extremity. Theſe tumours, eſpecially when recently formed, frequently contain fluid blood; but, after they have remained for ſome time, they are commonly of a firmer ſubſtance.

DCCCCXXXIII.

From a conſideration of their cauſes, to be hereafter mentioned, it is ſufficiently probable, that hemorrhoidal tumours are produced by ſome interruption of the free return of blood from the veins of the lower extremity of the rectum; and it is poſſible, that a conſiderable accumulation of blood in thoſe veins, may occaſion a rupture of their extremities, and thus produce the hemorrhagy or tumours I have mentioned. But, conſidering that the hemorrhagy occurring here is often preceded by pain, inflammation, and a febrile ſtate, as well as by many other ſymptoms which ſhow a connection between the topical affection and the ſtate of the whole ſyſtem, it ſeems probable that the interruption of the venous blood, which we have ſuppoſed to take place, operates in the manner explained in DCCLXIX. and therefore, that the diſcharge of blood here is commonly from arteries.

DCCCCXXXIV.

Some phyſicians have been of opinion, that a difference in the nature of the hemorrhois, and of its effects upon the ſyſtem, might ariſe from the difference of the hemorrhoidal veſſels from which the blood iſſued. But it appears to me, that hardly in any caſe we can diſtinguiſh the veſſels from which the blood flows; and that the frequent inoſculations, of both the arteries and veins which belong to the lower extremity of the rectum, will render the effects of the hemorrhagy nearly the ſame, from whichſoever of theſe veſſels the blood proceed.

DCCCCXXXV.

In DCCLXIX. I have endeavoured to explain the manner in which a certain ſtate of the ſanguiferous ſyſtem might give occaſion to an hemorrhoidal flux; and I have no doubt, that this flux may be produced in that manner. I cannot, however, by any means admit that the diſeaſe is ſo often produced in that manner, or that, on its firſt appearance, it is ſo frequently a ſyſtematic affection, as the Stahlians have imagined, and would have us to believe. It occurs in many perſons before the period of life at which the venous plethora takes place; it happens to females, in whom a venous plethora, determined to the hemorrhoidal veſſels, cannot be ſuppoſed; and it happens to both ſexes, and to perſons of all ages, from cauſes which do not affect the ſyſtem, and are manifeſtly ſuited to produce a topical affection only.

DCCCCXXXVI.

Theſe cauſes of a topical affection are, in the firſt place, the frequent voiding of hard and bulky fæces, which, not only by their long ſtagnation in the rectum, but eſpecially when voided, muſt preſs upon the veins of the anus, and interrupt the courſe of the blood in them. It is for this reaſon that the diſeaſe happens ſo often to perſons of a ſlow and bound belly.

DCCCCXXXVII.

From the cauſes juſt now mentioned, the diſeaſe happens eſpecially to perſons liable to ſome degree of a prolapſus ani. Almoſt every perſon in voiding fæces has the internal coat of the rectum more or leſs protruded without the body; and this will be to a greater or leſſer degree, according as the hardneſs and bulk of the fæces occaſion a greater or leſſer effort or preſſure upon the anus. While the gut is thus puſhed out, it often happens that the ſphincter ani is contracted before the gut is replaced; and, in conſequence thereof, a ſtrong conſtriction is made, which preventing the fallen-out gut from being replaced; and at the ſame time preventing the return of blood from it, occaſions its being conſiderally ſwelled, and its forming a tumid ring round the anus.

DCCCCXXXVIII.

Upon the ſphincter's being a little relaxed, as it is immediately after its ſtrong contraction, the fallen-out portion of the gut is commonly again taken within the body; but by the frequent repetition of ſuch an accident, the ſize and fullneſs of the ring formed by the fallen-out gut, is much increaſed. It is therefore more ſlowly and difficultly replaced; and in this conſiſts the chief uneaſineſs of hemorrhoidal perſons.

DCCCCXXXIX.

As the internal edge of the ring mentioned, is neceſſarily divided by clefts, the whole often aſſumes the appearance of a number of diſtinct ſwellings; and it alſo frequently happens, that ſome portions of it, more conſiderably ſwelled than others, become more protuberant,

tuberant, and form thoſe ſmall tumours more ſtrictly called Hemorrhoids, or Piles.

DCCCCXL.

From conſidering that the preſſure of fæces, and other cauſes interrupting the return of venous blood from the lower extremity of the rectum, may operate a good deal higher up in the gut than that extremity, it may be eaſily underſtood that tumours may be formed within the anus; and probably it alſo happens, that ſome of the tumours formed without the anus, as in DCCCCXXXIX. may continue when taken within the body, and even be increaſed by the cauſes juſt now mentioned. It is thus that I would explain the production of internal piles, which, on account of their ſituation and bulk, are not protruded on the perſon's going to ſtool, and are often, therefore, more painful. The ſame internal piles are more eſpecially painful, when affected by the hemorrhagic effort deſcribed in DCCXLV. and DCCLXIX.

DCCCCXLI.

The production of piles is particularly illuſtrated by this, that pregnant women are frequently affected with them. This is to be accounted for, partly from the preſſure of the uterus upon the rectum, and partly from the coſtive habit to which pregnant women are uſually liable. I have known many inſtances of piles occurring for the firſt time during the ſtate of pregnancy; and there are few women that have borne children who are afterwards entirely free from piles. The Stahlians have commonly aſſerted, that the male ſex is more frequently affected with this diſeaſe than the female; but in this country I have conſtantly found it otherwiſe.

DCCCCXLII.

It is commonly ſuppoſed, that the frequent uſe of purgatives, eſpecially of thoſe of the more acrid kind; and more particularly of aloetics, is apt to produce the hemorrhoidal affection; and as theſe purgatives ſtimulate

late chiefly the great guts, it ſeems ſufficiently probable that they may excite this diſeaſe.

DCCCCXLIII.

I have now mentioned ſeveral cauſes which may produce the hemorrhoidal tumours and flux as a topical affection only; but muſt obſerve farther, that although the diſeaſe appears firſt as a purely topical affection, it may, by frequent repetition, become habitual, and therefore may become connected with the whole ſyſtem, in the manner already explained, with reſpect to hemorrhagy in general, in DCCXLVIII.

DCCCCXLIV.

The doctrine now referred to, will, it is apprehended, apply very fully to the caſe of the hemorrhoidal flux; and will the more readily apply, from the perſon who has been once affected being much expoſed to a renewal of the cauſes which firſt occaſioned the diſeaſe; and from many perſons being much expoſed to a congeſtion in the hemorrhoidal veſſels, in conſequence of their being often in an erect poſition of the body, and in an exerciſe which puſhes the blood into the depending veſſels, while at the ſame time the effects of theſe circumſtances are much favoured by the abundance and laxity of the cellular texture about the rectum.

DCCCCXLV.

It is thus that the hemorrhoidal flux is ſo often artificially rendered an habitual and ſyſtematic affection; and I am perſuaded, that it is this which has given occaſion to the Stahlians to conſider the diſeaſe as almoſt univerſally ſuch.

DCCCCXLVI.

It is to be particularly obſerved here, that when the hemorrhoidal diſeaſe has either been originally, or has become, in the manner juſt now explained, a ſyſtematic affection, it then acquires a particular connection with the ſtomach, ſo that certain affections there excite the hemorrhoidal diſeaſe, and certain ſtates of the hemorrhoidal affection excite diſorders of the ſtomach.

It is perhaps owing to this connection, that the gout ſometimes affects the rectum. See DXXV.

* * *

SECT. II.

OF THE CURE OF HEMORRHOIDAL AFFECTIONS.

DCCCCXLVII.

ALMOST at all times it has been an opinion amongſt phyſicians, and from them ſpread amongſt the people, that the hemorrhoidal flux is a ſalutary evacuation, which prevents many diſeaſes that would otherwiſe have happened; and that it even contributes to give long life. This opinion, in later times, has been eſpecially maintained by Dr. Stahl, and his followers; and has had a great deal of influence upon the practice of phyſic in Germany.

DCCCCXLVIII.

The queſtion ariſes with reſpect to hemorrhagy in general, and indeed it has been extended ſo far by the Stahlians. I have accordingly conſidered it as a general queſtion (DCCLXVII—DCCLXXX) but it has been more eſpecially agitated with regard to the diſeaſe now under our conſideration: And as to this, although I am clearly of opinion that the hemorrhois may take place in conſequence of the general ſtate of the ſyſtem (DCCLXIX,) or, what is ſtill more frequent, that by repetition it may become connected with that general ſtate (DCCCCXLIII.) and in either caſe cannot be ſuppreſſed without great caution; I muſt beg leave, notwithſtanding this, to maintain, that the firſt is a rare caſe; that generally the diſeaſe firſt appears as an affection purely topical (DCCCCXXXV.—DCCCCXLII.), and that the allowing it to become habitual is never proper. It is a naſty diſagreeable diſeaſe, ready to go to exceſs, and to be thereby very hurtful, as well as ſometimes fatal. At beſt it is liable to accidents, and thereby to unhappy conſequences. I am therefore of opinion, that not only the firſt approaches of the diſeaſe are to be guarded againſt, but even that, when it has taken place for ſome time, from whatever cauſe it may have proceeded, the flux is always to be moderated, and the neceſſity of it, if poſſible, ſuperſeded.

DCCCCXLIX.

Having delivered theſe general rules, I proceed to mention more particularly, how the diſeaſe is to be treated, according to the different circumſtances under which it may appear.

When we can manifeſtly diſcern the firſt appearance of the diſeaſe to ariſe from cauſes acting upon the part only, the ſtricteſt attention ſhould be employed in guarding againſt the renewal of theſe cauſes.

DCCCCL.

One of the moſt frequent of the remote cauſes of the hemorrhoidal affection, is a ſlow and bound belly (DCCCCXXXVI.) and this is to be conſtantly obviated by a proper diet*, which each individual's own experience muſt direct; or, if the management of diet be not effectual, the belly muſt be kept regular by ſuch medicines as may prove gently laxative, without irritating the rectum†. In moſt caſes it will be of advantage

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* Broths of all kinds are proper in theſe caſes; barley broth is preferable to that which is made with rice. Barley-gruel, with prunes, is an excellent laxative broth.

† The lenitive electuary alone may in many caſes be ſufficient, when given in the quantity of half an ounce or ſix drachms.—

vantage to acquire a habit with reſpect to time, and to obſerve it exactly.

DCCCCLI.

Another cauſe of hemorrhois to be eſpecially attended to, is the prolapſus or protruſion of the anus, which is apt to happen on a perſon's having a ſtool, (DCCCCXXXVII.) If it ſhall occur to any conſiderable degree, and at the ſame time be not eaſily and immediately replaced, it moſt certainly produces piles, or increaſes them when otherwiſe produced. Perſons therefore liable to this prolapſus, ſhould, upon their having been at ſtool, take great pains to have the gut immediately replaced, by lying down in a horizontal poſture, and preſſing gently upon the anus, till the reduction ſhall be completely obtained.

DCCCCLII.

When the prolapſus of which I ſpeak, is occaſioned only by voiding hard and bulky fæces, it ſhould be obviated by the means mentioned in DCCCCL. and may be thereby avoided. But in ſome perſons it is owing to a laxity of the rectum; in which caſe it is often moſt conſiderable upon occaſion of a looſe ſtool: and then the diſeaſe is to be treated by aſtringent*, as well as by proper artifices for preventing the falling down of the gut.

DCCCCLIII.

Theſe are the means to be employed upon the firſt approaches

The following formula may be added where greater coſtiveneſs prevails.

℞. Sal. Nitri. ʒii.
Pulv. Jalap. ʒi.
Elect. Lenitivi. ℥i.
M. f. Elect. cujus ſumat q. n. m. pro re nata.

* Aſtringents may be uſed both internally and externally. The internal aſtringents are Alum, Kino, Terra Japonica, &c. But in caſes of hemorrhoids from laxity, nothing produces a better effect, than the frequent application of pledgets, dipped in a ſtrong infuſion of galls, or Oak-bark.

approaches of the hemorrhoidal affection; and when from neglect it ſhall have frequently recurred, and has become in ſome meaſure eſtabliſhed, they are no leſs proper. In the latter caſe, however, ſome other means are alſo neceſſary. It is particularly proper to guard againſt a plethoric ſtate of the body; conſequently, to avoid a ſedentary life, a full diet, and particularly intemperance in the uſe of ſtrong liquor, which, as I ſhould have obſerved before, is, in all caſes of hemorrhagy, of the greateſt influence in increaſing the diſpoſition to the diſeaſe.

DCCCCLIV.

I need hardly repeat here, that exerciſe of all kinds muſt be a chief means of obviating and removing a plethoric ſtate of the body; but upon occaſion of the hemorrhoidal flux immediately approaching, both walking and riding, as increaſing the determination of the blood into the hemorrhoidal veſſels, are to be avoided. At other times, when no ſuch determination has been already formed, thoſe modes of exerciſe may be very properly employed*.

DCCCCLV.

Cold bathing is another remedy that may be employed to obviate plethora, and prevent hemorrhagy; but it is to be uſed with caution. When the hemorrhoidal flux is approaching, it may be dangerous to turn it ſuddenly aſide by cold bathing: but during the intervals of the diſeaſe, this remedy may be employed with advantage; and in perſons liable to a prolapſus ani, the frequent waſhing of the anus with cold water may be very uſeful.

DCCCCLVI.

Theſe are the means for preventing the recurrence

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* It is doubtful whether riding is ever adviſable in any period of the diſeaſe. Riding frequently produces piles, in perſons not in the leaſt predisposed to them.

of the hemorrhoidal flux; and in all caſes, when it is not immediately approaching, they are to be employed. When it has actually come on, means are to be employed for moderating it as much as poſſible, by the perſon's lying in a horizontal poſition upon a hard bed; by avoiding exerciſe in an erect poſture; by uſing a cool diet; by avoiding external heat; and by obviating the irritation of hardened fæces by the uſe of proper laxatives, (DCCCCL.) From what has been ſaid above, as to the being careful not to increaſe the determination of the blood into the hemorrhoidal veſſels, the propriety of theſe meaſures muſt ſufficiently appear; and if they were not ſo generally neglected, many perſons would eſcape the great trouble, and various bad conſequences, which ſo frequently reſult from this diſeaſe.

DCCCCLVII.

With reſpect to the further cure of this diſeaſe, it is almoſt in two caſes only that hemorrhoidal perſons call for the aſſiſtance of the phyſician. The one is when the affection is accompanied with much pain; and of this there are two caſes, according as the pain happens to attend the external or the internal piles.

DCCCCLVIII.

The pain of the external piles ariſes eſpecially when a conſiderable protruſion of the rectum has happened; and when, continuing unreduced, it is ſtrangled by the conſtriction of the ſphincter; while, at the ſame time, no bleeding happens, to take off the ſwelling of the protruded portion of the inteſtine. Sometimes an inflammation ſupervenes, and greatly aggravates the pain. To relieve the pain in this caſe, emollient fomentations and poultices are ſometimes of ſervice; but a more effectual relief is to be obtained by applying leeches to the tumid parts.

DCCCCLIX.

The other caſe in which hemorrhoidal perſons ſeek aſſiſtance, is that of exceſſive bleeding. Upon the opinion ſo generally received of this diſcharge being ſalutary, and from the obſervation that upon the diſcharge occurring, perſons have ſometimes found relief from various diſorders, the moſt part of perſons liable to it are ready to let it go too far; and indeed the Stahlians will not allow it to be a diſeaſe, unleſs when it has actually gone to exceſs. I am, however, well perſuaded, that this flux ought always to be cured as ſoon as poſſible.

DCCCCLX.

When the diſeaſe occurs as a purely topical affection, there can be no doubt of the propriety of this rule; and, even when it has occurred as a critical diſcharge in the caſe of a particular diſeaſe, yet when this diſeaſe ſhall have been entirely cured and removed, the preventing any return of the hemorrhois, ſeems to be both ſafe and proper.

DCCCCLXI.

It is only when the diſeaſe ariſes from a plethoric ſtate of the body, and from a ſtagnation of blood in the hypochondriac region, or when, though originally topical, the diſeaſe, by frequent repetition, has become habitual, and has thereby acquired a connection with the whole ſyſtem, that any doubt can ariſe as to the ſafety of curing it entirely. Even in theſe caſes, however, I apprehend it will be always proper to moderate the bleeding; leſt by its continuance or repetition, the plethoric ſtate of the body, and the particular determination of the blood into the hemorrhoidal veſſels, be increaſed, and the recurrence of the diſeaſe, with all its inconveniences and danger, be too much favoured.

DCCCCLXII.

Further, even in the caſes ſtated (DCCCCLXI.) in ſo far as the plethoric ſtate of the body, and the tendency to that ſtate, can be obviated and removed, this is always

ways to be diligently attempted; and if it can be executed with ſucceſs, the flux may be entirely ſuppreſſed.

DCCCCLXIII.

The Stahlian opinion, that the hemorrhoidal flux is only in exceſs when it occaſions great debility, or a leucophlegmatia, is by no means juſt; and it appears to me, that the ſmalleſt approach towards *producing* either of theſe, ſhould be conſidered as an exceſs, which ought to be prevented from going farther.

DCCCCLXIV.

In all caſes, therefore, of exceſs, or of any approach towards it, and particularly when the diſeaſe depends upon a prolapſus ani, (DCCCCLI.) I am of opinion, that aſtringents, both internal, and external, may be ſafely and properly employed; not indeed to induce an immediate and total ſuppreſſion, but to moderate the hemorrhagy, and by degrees to ſuppreſs it altogether, while at the ſame time meaſures are taken for removing the neceſſity of its recurrence.

DCCCCLXV.

When the circumſtances (DCCCCXLVI.) marking a connection between the hemorrhoidal affection and the ſtate of the ſtomach occur, the meaſures neceſſary are the ſame as in the caſe of atonic gout.

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